



1202 Musser Street
Muscatine, IA 52761-1645
(563) 263-2752
Fax (563) 263-3720

WATER & RESOURCE RECOVERY FACILITY

MEMORANDUM

To: Gregg Mandsager, City Administrator

CC: Nancy Lueck, Finance Director

From: Jon Koch, WRRF Director

Date: April 1, 2019

Re: Status of HSW Receiving Project

While we seem to have another setback in the HSW Project, I always like to look at bumps in the road not as problems but as opportunities. We obviously have a disconnect with engineers and contractors and I am attaching a letter from Stanley Consultants here for their explanation of what they believe has happened.

While the latest bids did come in over budget and Stanley has an alternate plan that would get us under budget again, I feel it is not targeting the correct portion of the project. In order for me to feel good about proceeding and bringing this back to Council for rebidding, we have to have a dramatic decrease in the price without sacrificing function. My plan to remove the liquid receiving portion of the project and build it in-house accomplishes this with little change to the larger solid waste portion. The food receiving aspect of this project has proved to be much larger with much greater revenue potential. This is coming not from me but from those who are looking for a facility like this in our region.

There is a risk here that we won't receive any bids for this scaled back project. It is late in the season and many contractors have everything set. If so we can look at doing each portion of the project separately by hiring them out to smaller contractors. This is mostly work for plumbers and electricians at this point. I am hopeful this will open the project to smaller contractors that can come in and finish quickly since there is little site work to be delayed by weather.

I apologize for not being available at the April 4th Council meeting. I am in DC representing Iowa at the Water Week National Policy Fly-In. My trip is sponsored by the Iowa Water Environment Association of which I am the current President. The largest water groups from around the country meet every year to hear from top EPA administrators and meet directly legislators in their DC offices to talk about water quality and water infrastructure. I will have more details about the HSW project and how I see it playing out at the in-depth meeting April 11th.

**"I remember Muscatine for its sunsets. I have never seen any
on either side of the ocean that equaled them" — Mark Twain**

April 1, 2019

Mr. Jon Koch
WRRF Director
City of Muscatine
1202 Musser Street
Muscatine, IA 52761-1645

Dear Mr. Koch:

Subject: High Strength Receiving Project Rebid
City of Muscatine
Muscatine, Iowa

This letter provides our report on results of the bid opening for the subject project, which was held in City Hall on March 19, 2019, and offers our evaluation of the bids for City consideration.

The following three (3) contractors submitted bids. The bids are considered responsive bids. The bid tab is attached to this letter.

- Myers Construction of Mediapolis, Iowa with a bid amount of \$3,892,100.
- Carl A. Nelson & Company of Burlington, Iowa with a bid amount of \$3,515,540.
- Leander Construction, Inc. of Canton, Illinois with a bid amount of \$3,365,000.

The difference between the high and low bids is \$527,100 or about 16% apart. However, the two lowest bids are only \$150,540 apart (4.5%). Engineer's opinion of probable cost was \$2,490,000.

The bids are considered to represent the value of the work at this time in the marketplace. Comparison of the engineer's estimate with the apparent low bidder's schedule of values indicates that there are multiple categories where the engineer's estimate is 1 to 3% low. There are several categories in the engineer's estimate that are significantly lower (15 to 25%) including site work, concrete, painting/coatings, process piping/valves, and electrical. These differences may be attributable to the overall bid climate, material pricing, overall inefficiency of the project due to numerous small quantity items, and use of lower unit prices in engineer's estimate that did not completely account for small quantities.

We have direct experience with Leander Construction and have checked references for other project bids. Leander is considered a capable contractor that performs reasonably and addresses problems. Our experience is that they do tend to go long on schedule and sometimes do not staff projects to extent needed to meet schedule.

We note what are likely considered minor irregularities in Leander's Bid as follows:

1. Bid included a mechanical bar screen by a supplier not previously approved. The bar screen pricing is apparently substantially different than the presumably named supplier as evidenced by the Alternate 3 deductive pricing of \$76,000 from Leander versus \$131,817 and \$176,500 respectively for Carl A. Nelson Company and Myers Construction.
2. Bidder Status Form – Part C (to be completed by non-resident bidders) – Leander indicated on the form that the Company's home state (Illinois) does offer preferences to bidders if other states offer preferences and attached citation of Illinois law 30 ILCS 500. Leander did not provide citation for State of Illinois requirement to use 90% Illinois works for projects on border counties when state unemployment rate is 5%

This document was sent electronically.

Mr. Jon Koch
 April 1, 2019
 Page 2

or higher (30 ILCS 570 Employment of Illinois Workers on Public Works Act). Latest data available indicates Illinois unemployment rate for February 2019 is 4.7%. Whether this requirement is a preference to resident bidders is subject to interpretation as the Illinois statute would in theory require all bidders meet the same requirements not just Illinois or out of state bidders. The Iowa Department of Labor did not provide any further clarification upon a prior request for clarification. This response is arguably subject to interpretation.

The City of Muscatine should confer with its legal counsel on interpreting and waiving the irregularities.

We analyzed the various combinations of base bid with deductive alternates. In all combinations, Leander Construction's pricing was lowest. We also performed an analysis of an adjusted basis of bids based on the mechanical bar screen pricing. In all combinations using the adjusted basis with exception of the case that includes executing Alternatives 1 and 3, Leander Construction's pricing was lowest. The following table summarizes the pricing.

	Myers Construction	Carl A. Nelson Co	Leander Construction
Bid	\$ 3,892,100	\$ 3,515,540	\$ 3,365,000
Alt 1	\$ 654,400	\$ 330,834	\$ 247,000
Alt 2	\$ 49,100	\$ 86,170	\$ 86,300
Alt 3	\$ 176,500	\$ 131,817	\$ 76,000
w/ Alt 1	\$ 3,237,700	\$ 3,184,706	\$ 3,118,000
w/ Alt 1 & 2	\$ 3,188,600	\$ 3,098,536	\$ 3,031,700
w/ Alt 1-3	\$ 3,012,100	\$ 2,966,719	\$ 2,955,700
w/ Alt 1 & 3	\$ 3,061,200	\$ 3,052,889	\$ 3,042,000
Adjusted Bid	\$ 3,892,100	\$ 3,515,540	\$ 3,420,817
Alt 1	\$ 654,400	\$ 330,834	\$ 247,000
Alt 2	\$ 49,100	\$ 86,170	\$ 86,300
Alt 3	\$ 176,500	\$ 131,817	\$ 76,000
w/ Alt 1	\$ 3,237,700	\$ 3,184,706	\$ 3,173,817
w/ Alt 1 & 2	\$ 3,188,600	\$ 3,098,536	\$ 3,087,517
w/ Alt 1-3	\$ 3,012,100	\$ 2,966,719	\$ 3,011,517
w/ Alt 1 & 3	\$ 3,061,200	\$ 3,052,889	\$ 3,097,817

Leander Construction, Inc. is a qualified contractor who has performed similar wastewater treatment work. While the bids are significantly higher than the engineer's estimate of construction cost, we feel the low bid represents fair value for this project at this time.

As the bids were higher than our estimate and the City's budget, we explored cost reduction measures that could be implemented if awarded to Leander Construction. Approximately, \$600,000 in additional savings was identified after acceptance of deductive alternates 1 and 2 that could be implemented and retain the necessary project functionality. The estimated reduced price is \$2,400,000 which is approximately the same as the construction cost estimate of \$2,490,000 and about a 22% reduction from the low bid including deductive alternates 1 and 2.

Mr. Jon Koch
April 1, 2019
Page 3

We believe the City could award to apparent low bidder, reduce the cost by about 20-23% and proceed with the project. However, there is some concern that the 20+% reduction would represent a substantial change in scope and requiring rebidding. If City would like to proceed with award and cost reduction, legal guidance should be obtained to confirm re-bidding is not required.

City staff has a preference to re-package the project by eliminating the HSW Receiving Building and instead provide a low cost manual screen adjacent to the HSW Storage Tanks. This would reduce the overall cost by \$1 to \$1.3 million bringing the project cost closer to \$2 million. The drawback to this approach is that the project would need to be re-bid later in the prime bid season. Leander Construction and at least one of the subcontractors indicate that they are not sure they will bid the project again.

Sincerely,

Stanley Consultants, Inc.

A handwritten signature in black ink that reads "Jay M. Brady, P.E." in a cursive style.

Jay M. Brady, P.E.
Project Manager

Attachment – Bid Tab

jmb:MUS-PW1:DS-1:Docs:IFBU:25408.05:20190401_L_HSW-RebidEval.docx



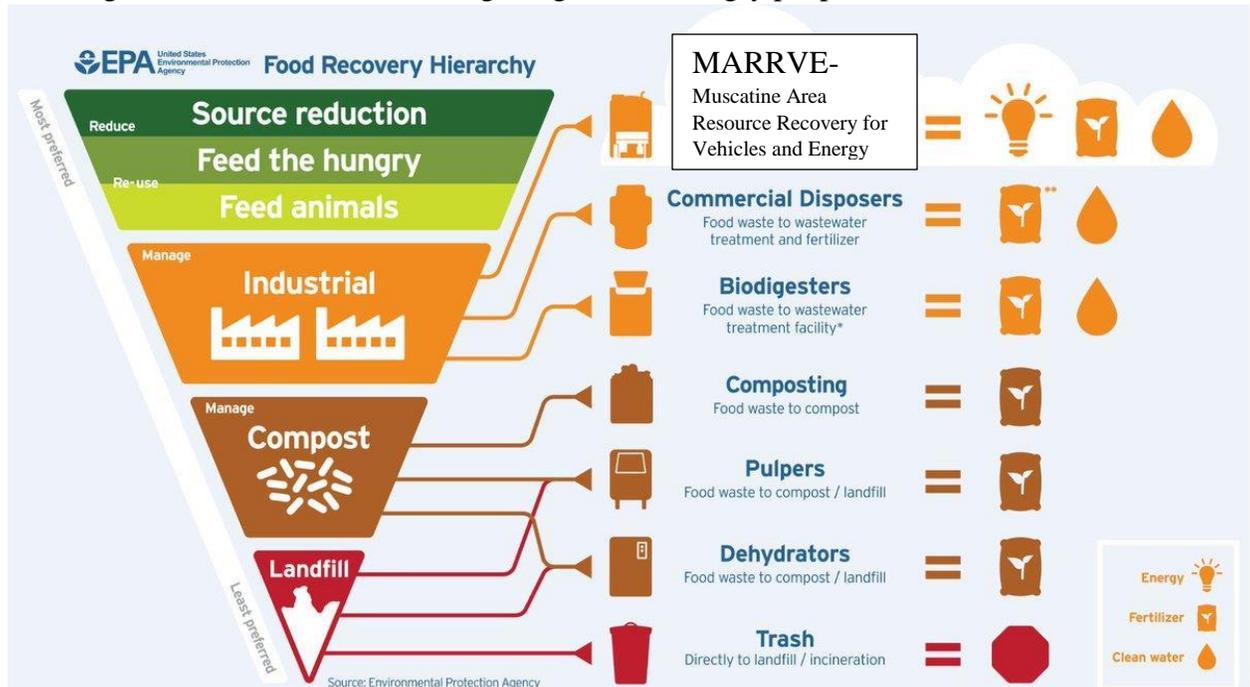
BID TABULATION SHEET
High Strength Waste Facilities Project
Water & Resources Recovery Facility
City of Muscatine, Iowa

BID NUMBER	1	2	3	4	
NAME OF BIDDER	Myers Construction	Carl A Nelson Co	Leander Construction		Engineer
BID SECURITY (5% Bond)	x	x	x		
ADDENDA (1-4)	x	x	x		
BASIS OF BID					
Lump Sum	\$3,892,100	\$3,515,540	\$3,365,000		\$2,490,000
Alternate 1 Storage Tnk Rehab Deduct	\$654,400	\$330,834	\$247,000		
Alternate 2 Vacuum Pad Deduct	\$49,100	\$86,170	\$89,300		
Alternate 3 Bar Scn Deduct	\$176,500	\$131,817	\$76,000		
Unit Adjustment Prices					
1. Additional Asphalt Paving up to 4000 SF	\$5.35	\$5.23	\$9.00		
2. Concrete Repair up to 1.5" Depth	\$180.00	\$38.00	\$16.00		
3. Concrete Repair > 1.5" Depth	\$182.00	\$100.00	\$45.00		
4. Concrete Repair – Rebar Replace	\$9.00	\$26.00	\$10.00		
ATTACHMENTS TO BID					
Statement of no Exceptions and Clarifications	Yes	Yes	Yes		
Exceptions and Clarifications to Contract Documents	No	No	No		
Iowa Bidder Status Form	Yes	Yes	Yes		
Evidence of Authority	Yes	Yes	Yes		
Contractor's License No.	C087748	C000227			
DUNS Number	105500644	04-462-2983	604547471		
Remarks:	<p style="text-align: center;">TABULATED <u>M Hoag</u> DATE <u>3/19/2019</u></p> <p style="text-align: center;">CHECKED <u>J Brady</u> DATE <u>3/19/2019</u></p>				
I hereby certify that this is a true and correct tabulation of the bids received at	<p style="text-align: center;">Muscatine City Hall On <u>3/19/2019</u> by <u>JM Brady</u></p>				

Council In-Depth Discussion

Why are we doing this? Let us not lose sight of the WHY:

- marrve is a movement, not just a construction project. We are looking to educate about reducing food waste at all levels and getting food to hungry people.



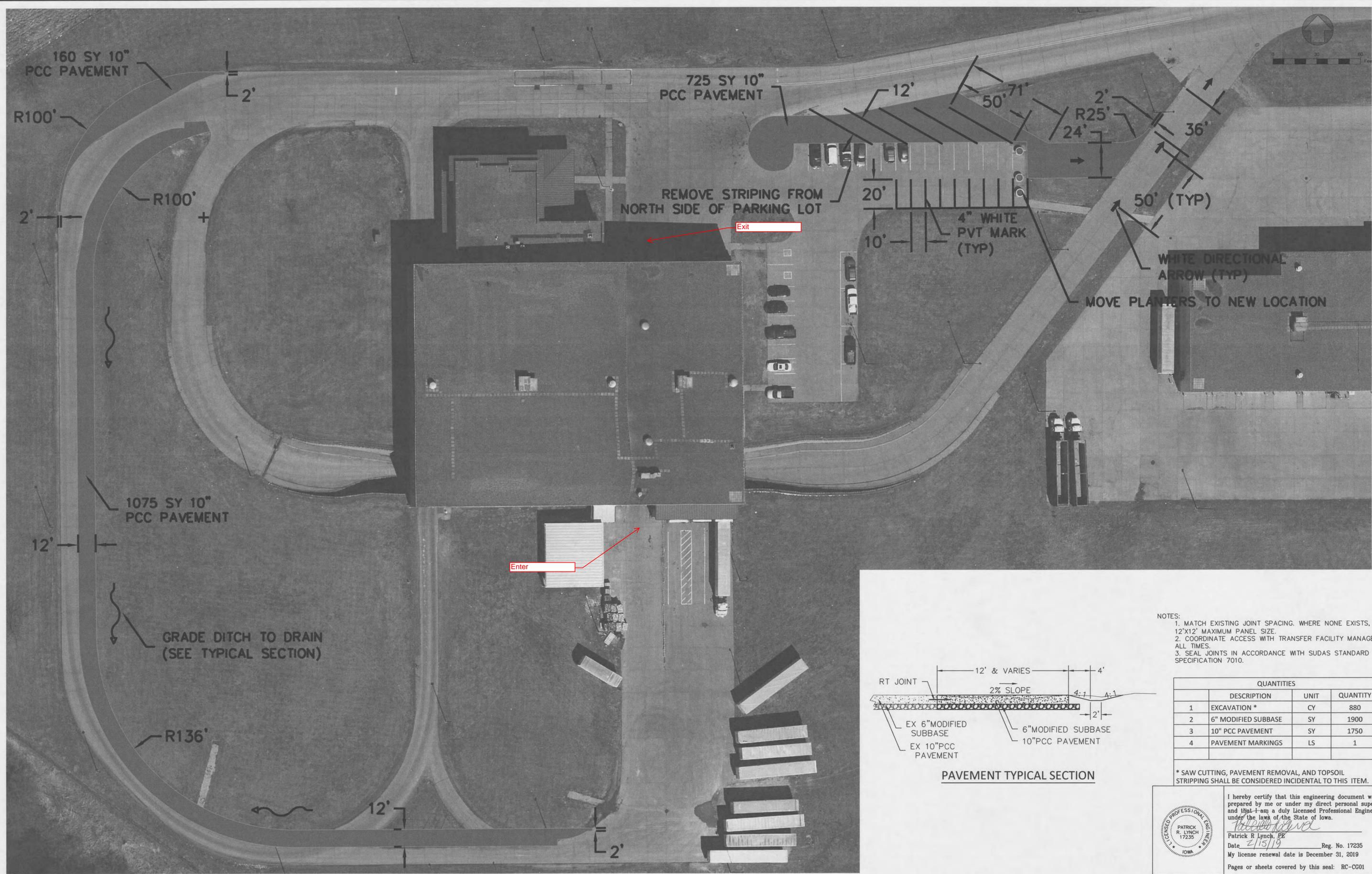
- Food waste/organic waste comprises nearly 30% of landfills. As this material decays it releases the powerful greenhouse gas methane into the atmosphere.
- 40% of food production does not get eaten. MARRVE hopes to educate about reducing food waste and feeding hungry people.
- A project like this increases positive public perception and pride making Muscatine stand out as a very forward thinking community- a very attractive attribute for new businesses and families looking to locate in the region.
- Attractive to people looking to move to Muscatine, wanting to be part of a community that is this deeply committed to the environment.
- Like a successful recycling program, people feel they are helping their community by participating in a food recovery program.
- The HSW Project is just the first phase of the local energy recovery concept. This material holds energy that is being wasted and will generate local revenue for the City.
- Commercial zero waste program cost reductions. Industries are sending this material out of state for processing, this would save them money and reduce shipping emissions.
- We are offering this at a lower cost than landfilling for some communities saving businesses money.

Who is going to use this facility?

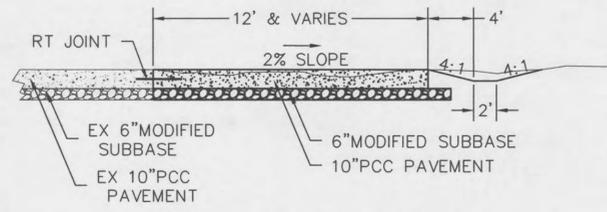
- Industrial users will be our first customers. Manufacturers and grocery stores make up most of these.
- Restaurant and cafeteria (school) pick-up will be developed next. Logistics and cost are not known at this time but MHS students have approached the City in the past to start a program at their school.
- Residential waste can be dropped off at the solid waste facility at the Transfer Station. Drop-off locations throughout the city will be developed and curbside collection could be developed privately.
- We know there is a large need for food waste recovery based on five local industries stating 10 tons/day probably available for packaged waste destruction. Kraft/Heinz Muscatine, Kraft/Heinz Davenport (Oscar Meyer), West Liberty Foods, Nestle Purina Davenport and Nestle Purina Clinton.
- Green-R-U, a composting pick-up service that handles all multiple organic waste for several generators (grocery stores), has stated they could “bury” us in material. They find it quite valuable to not send this material to Eddyville for composting.
- Hy-Vee is highly motivated to reduce waste and compost as they are exploring a depackaging machine option near Des Moines. We could service their entire eastern Iowa needs.
- West Liberty Foods is exploring a depackaging machine for their facility but has expressed an interest in using ours if available.
- Multiple food manufacturers to the south of us are completely unserved and would be isolated from competition in the QC area.
- Competition could come from Moline, the only municipality and large scale option that I have heard of from multiple sources. They are not at the design stage, just exploring.

How does it work?

- Food Waste Receiving: This will now happen at the old Recycling Center. Trucks will cross the scale and drive around the tipping floor area. Since this is only wide enough for one-way traffic the road is being widened. Trucks will either unload at the docks or drive through and dump on the food tipping floor. Material will be run through the T42 and pumped to tankers for delivery to the WRRF.
- Liquid Waste Receiving: Liquid waste haulers will enter through the front gate as they do now. They will drive around to the staging area and back up to connect a hose to the liquid waste receiving building. This will be a simple structure to allow for some heating and contain an in-house made trash screen similar to what is being used now. Food waste will come in by tanker from the T42 and stage in the same area to pumping directly to storage.
- Storage tanks are mixed and the material is sent to the Digester Control Building (DCB) for heating. A metered amount of the material will be put into the digesters as it circulates.
- Gas will be cleaned and injected into the Alliant pipeline in front of the plant: 2 years?



- NOTES:
1. MATCH EXISTING JOINT SPACING. WHERE NONE EXISTS, USE 12'X12' MAXIMUM PANEL SIZE.
 2. COORDINATE ACCESS WITH TRANSFER FACILITY MANAGER AT ALL TIMES.
 3. SEAL JOINTS IN ACCORDANCE WITH SUDAS STANDARD SPECIFICATION 7010.



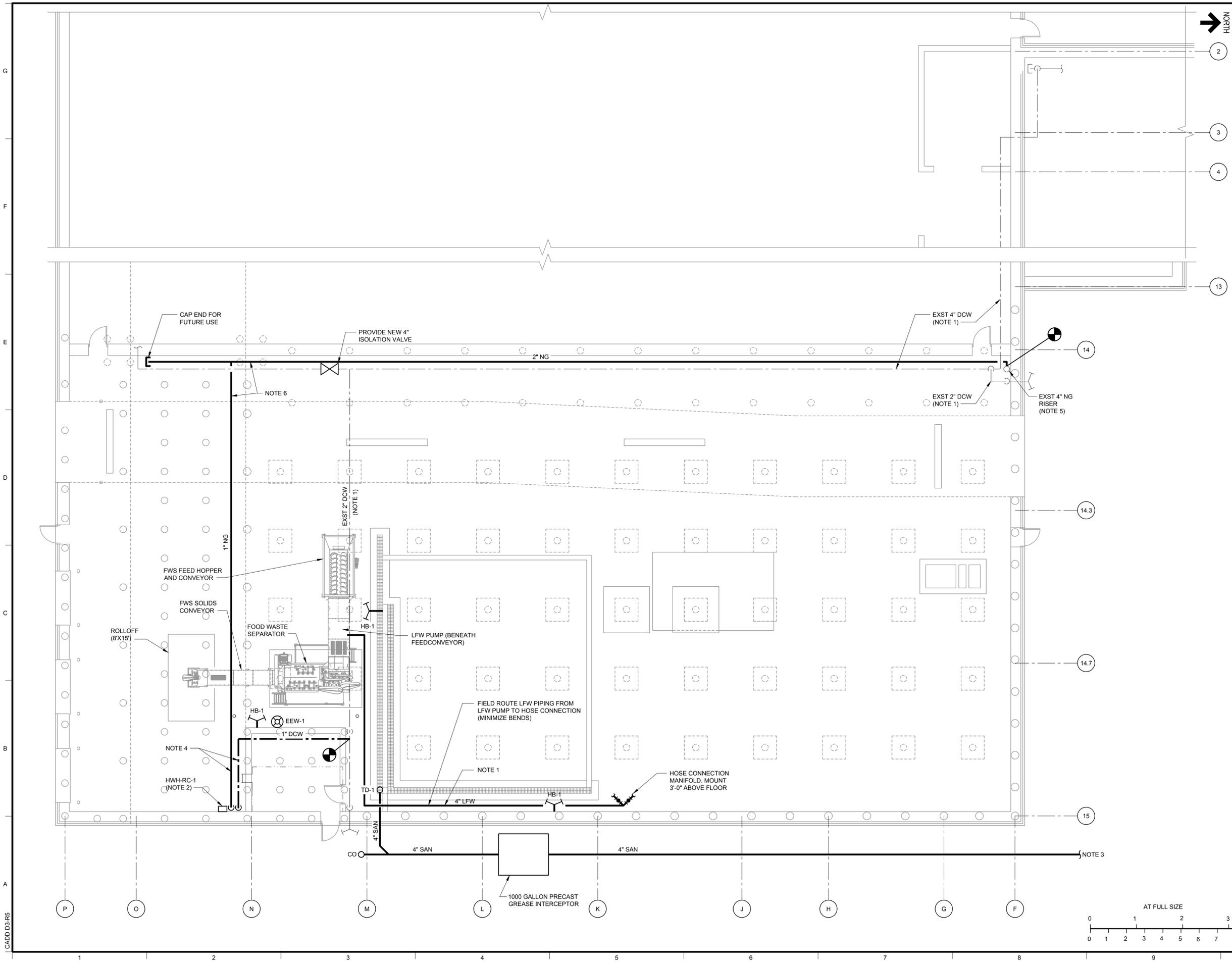
PAVEMENT TYPICAL SECTION

QUANTITIES			
	DESCRIPTION	UNIT	QUANTITY
1	EXCAVATION *	CY	880
2	6" MODIFIED SUBBASE	SY	1900
3	10" PCC PAVEMENT	SY	1750
4	PAVEMENT MARKINGS	LS	1

* SAW CUTTING, PAVEMENT REMOVAL, AND TOPSOIL STRIPPING SHALL BE CONSIDERED INCIDENTAL TO THIS ITEM.

I hereby certify that this engineering document was prepared by me or under my direct personal supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Iowa.

Patrick R. Lynch
 Patrick R. Lynch, PE
 Date 2/13/19 Reg. No. 17235
 My license renewal date is December 31, 2019
 Pages or sheets covered by this seal: RC-CG01



NOTES:

1. PROVIDE HEAT TRACING AND INSULATE. REFER TO ELECTRICAL DRAWINGS FOR HEAT TRACING INFORMATION.
2. REFER TO DRAWING ML02 FOR DOMESTIC WATER PIPING SCHEMATIC. PROVIDE ROOM-AIR INTAKE CONFIGURATION AND ROUTE EXHAUST THROUGH EXTERIOR WALL.
3. CONNECT 4" SANITARY (SAN) PIPING TO EXISTING MANHOLE S MH-3. SEE REFERENCE DRAWING C-5. SLOPE PIPE MINIMUM 2%.
4. ROUTE PIPES TO AVOID INTERFERING WITH LADDER ACCESSIBILITY.
5. SEE REFERENCE DRAWING M-7 AND M-9 FOR EXISTING PIPE SIZES AND LOCATIONS.
6. ROUTE NATURAL GAS PIPING MINIMUM 32'-0" ABOVE FINISHED FLOOR ELEVATION.

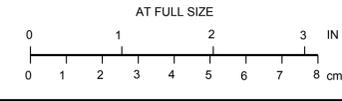
NO.	REVISIONS	DSGN	CHKD	APVD	DATE

Stanley Consultants Inc.
 225 Iowa Avenue, Muscatine, Iowa 52761-3764
 www.stanleyconsultants.com

HIGH STRENGTH WASTE FACILITIES
CITY OF MUSCATINE, IOWA

**RECYCLING CENTER
PLUMBING PLAN**

DESIGNED AL HILTON	SCALE: 1/8"=1'-0"
DRAWN DL WILGES	NO. 25408.05.00
CHECKED JJ BOVENKAMP	REV.
APPROVED AL HILTON	RC-ML01
DATE FEBRUARY 14, 2019	0



CADD D3-R5

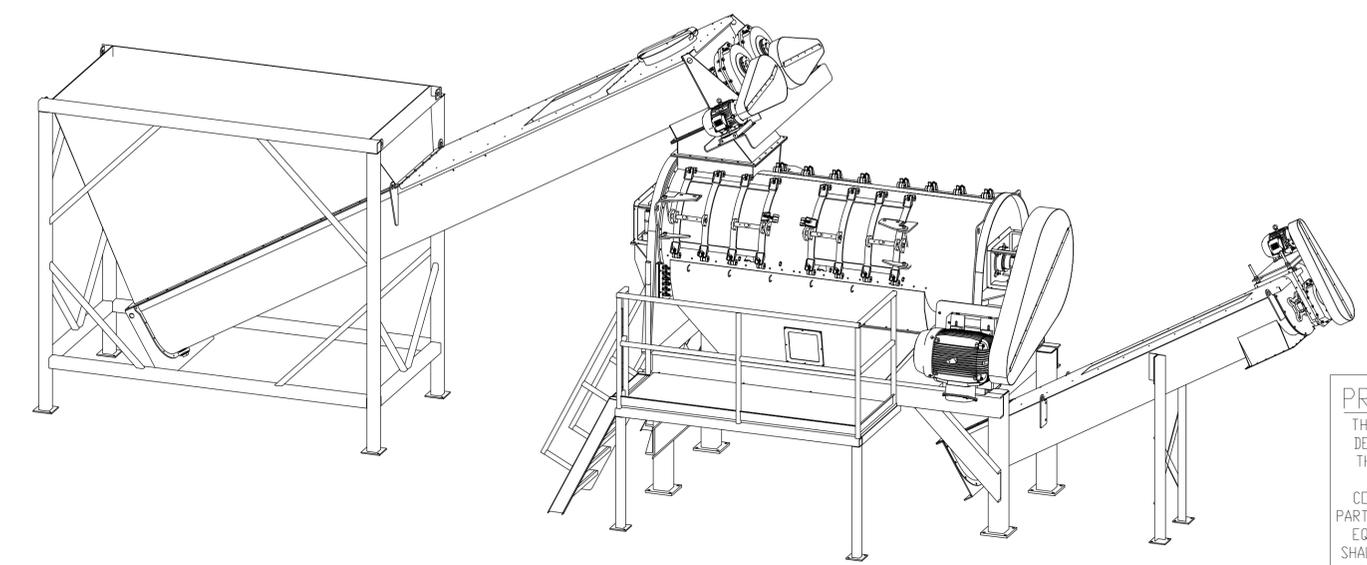
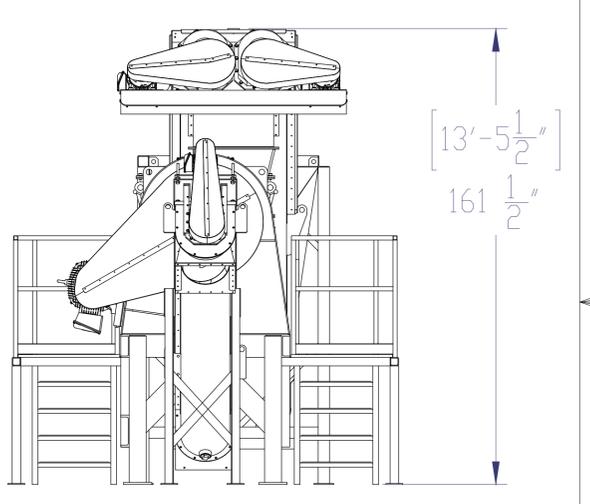
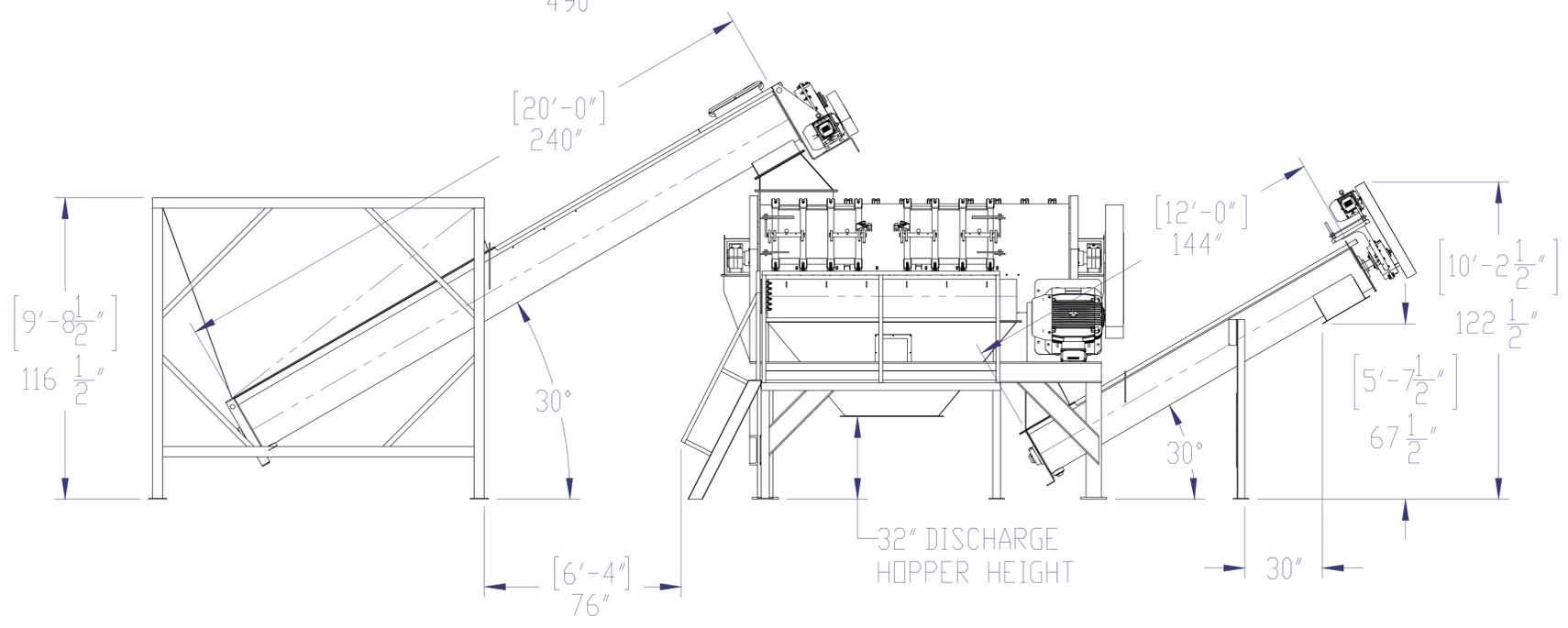
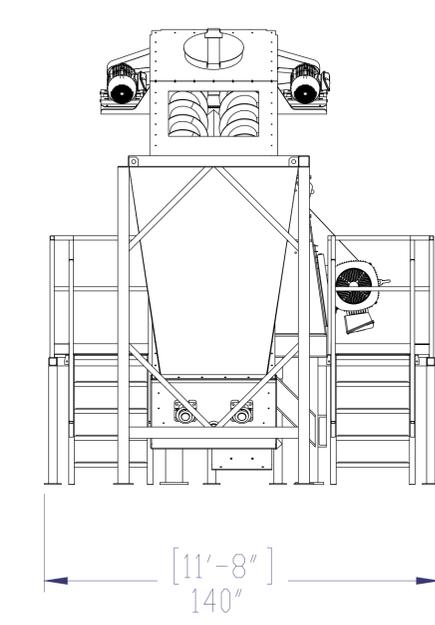
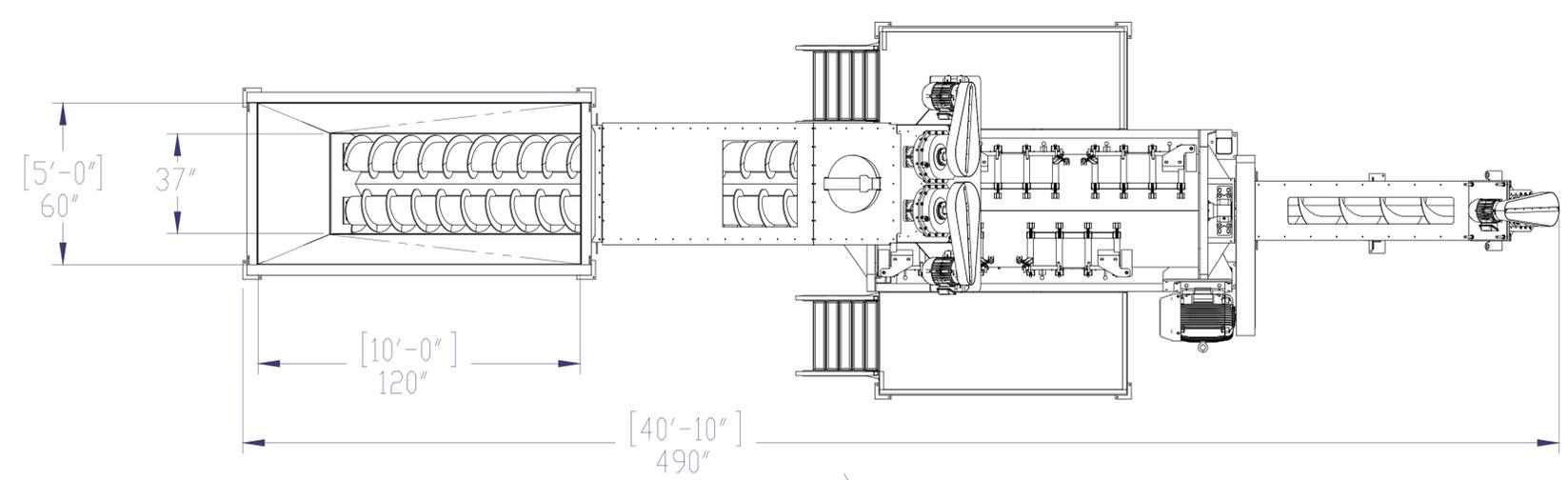
8 7 6 5 4 3 2 1

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C

B

A



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UNLESS OTHERWISE SPECIFIED:	NAME	DATE
DIMENSIONS ARE IN INCHES	DRAWN	ALLEN T 2/26/2015
TOLERANCES:	CHECKED	
FRACTIONAL ±	ENG APPR.	
ANGULAR: MACH ± BEND ±	MFG APPR.	
TWO PLACE DECIMAL ±	Q.A.	
THREE PLACE DECIMAL ±	SALES APPR.	
JOB #	CUST APPR.	
MATERIAL		
FINISH		
DO NOT SCALE DRAWING		

SCOTT EQUIPMENT COMPANY 605 4th Avenue NW
 New Prague, MN 56071
 952-758-2591

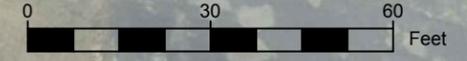
TITLE:
**T42 PLANT LAYOUT
 W/SCREW CONVEYOR**

SIZE	DWG. NO.	REV
B	T42 Inline Plant Layout SC	0

SCALE: 1:65 WEIGHT: SHEET 1 OF 1

8 7 6 5 4 3 2 1

Bare Bones Liquid Receiving. Could be temporary or move to advanced receiving as previously designed in several years.



Food Waste Truck Staging Area. 2 truck off-loading

Storage Tanks

Liquid Waste Receiving

Liquid Waste Truck Staging Area. 2 truck off-loading

REMOVE BOLLARDS

REMOVE SIDEWALK

PROTECT ELECTRICAL BOX W/ PIPE BOLLARDS

REMOVE YARD HYDRANT

PROTECT LIGHT POLE & JUNCTION BOX W/ PIPE BOLLARDS

1255 SY 12" COMPACTED AGG SURFACE ON NON-WOVEN ENGINEERING FABRIC

20 LF RETAINING/ PARAPET WALL

REMOVE SIDEWALK

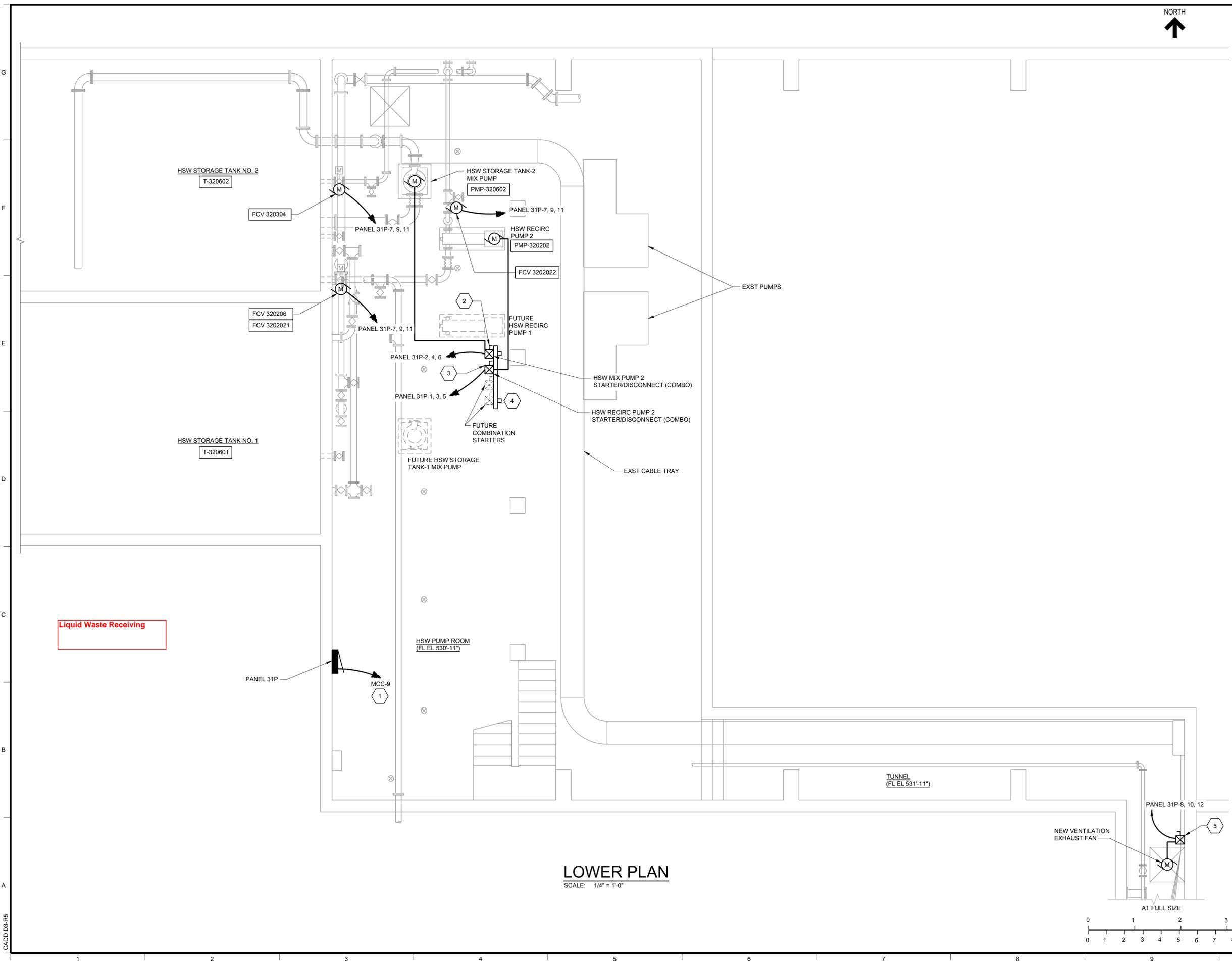


NOTES:

- 1. FOR ELECTRICAL DETAILS, SEE DRAWING EG03.
- 2. FOR PANEL SCHEDULE, SEE DRAWING EG06.

KEYED NOTES:

- 1 SELECT A SPARE BUCKET FROM MCC-9 IN ELECTRICAL ROOM. COORDINATE BUCKET SIZE WITH MCC-9 MAIN BREAKER. MCC-9 IS LOCATED IN ELECTRICAL ROOM ON MAIN FLOOR ABOVE THE HSW PUMP ROOM.
- 2 LOCALLY MOUNTED SIZE 2 FVNR STARTER AND DISCONNECT COMBO. SHALL BE MOUNTED IN A NEMA 3R ENCLOSURE WITH LOCK OUT CAPABILITIES.
- 3 LOCALLY MOUNTED SIZE 1 FVR STARTER AND DISCONNECT COMBO. SHALL BE MOUNTED IN A NEMA 3R ENCLOSURE WITH LOCK OUT CAPABILITIES.
- 4 STANCHION MOUNT COMBINATION STARTERS WITH ROOM FOR TWO FUTURE STARTERS. SEE DETAIL ON DRAWING EG03.
- 5 LOCALLY MOUNTED SIZE 1 FVNR STARTER AND DISCONNECT COMBO. SHALL BE MOUNTED IN A NEMA 3R ENCLOSURE WITH LOCK OUT CAPABILITIES.



LOWER PLAN
SCALE: 1/4" = 1'-0"

NO.	REVISIONS	DSGN	CHKD	APVD	DATE



Stanley Consultants INC.

225 Iowa Avenue, Muscatine, Iowa 52761-3764
www.stanleyconsultants.com

HIGH STRENGTH WASTE FACILITIES
CITY OF MUSCATINE, IOWA

**CONTROL BUILDING
LOWER LEVEL POWER
PLAN - SHEET 1**

DESIGNED: BA WACHTEL	SCALE: 1/4"=1'-0"
DRAWN: DL WILGES	NO. 25408.05.00
CHECKED: GG GARDNER	REV. 0
APPROVED: GG GARDNER	90-EP01
DATE: FEBRUARY 14, 2019	0

CADD D3-R5

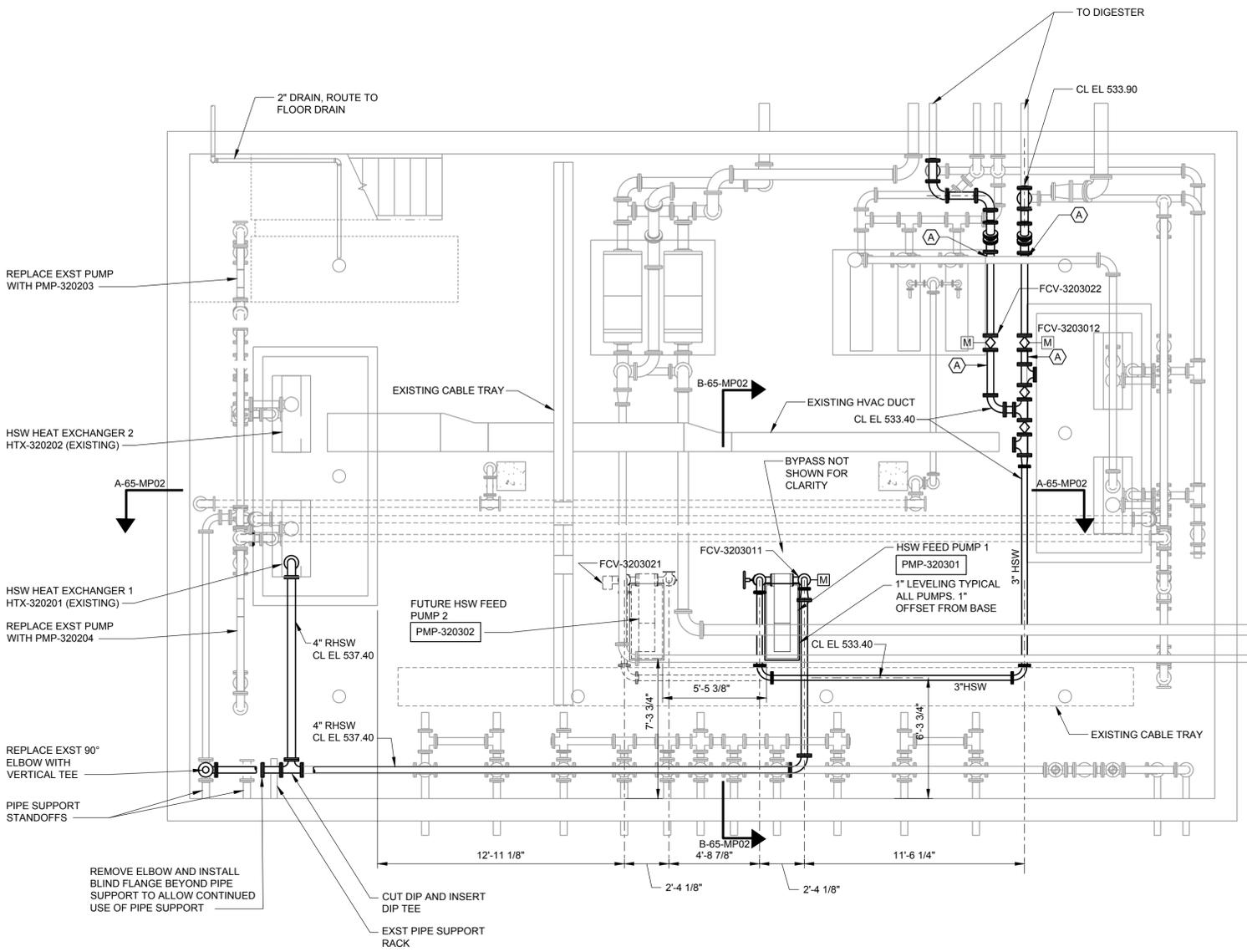
NOTES:

1. FOR INSTRUMENTATION SEE P&ID DRAWINGS.
2. ALL ISOLATION VALVES 6" AND SMALLER SHALL BE DIAPHRAGM VALVES, 8" AND LARGER SHALL BE PINCH VALVES.
3. NOT ALL PIPING AND APPURTENANCES SHOWN. REFER TO P&ID DRAWINGS FOR ADDITIONAL REQUIREMENTS.

LEGEND:

(SEE DRAWING P03 & P04)

- QUICK DISCONNECT FLUSHING CONNECTION
- PRESSURE INSTRUMENT CONNECTION



LOWER LEVEL PROCESS PLAN
SCALE: 1/4" = 1'-0"



PHOTO LOOKING WEST

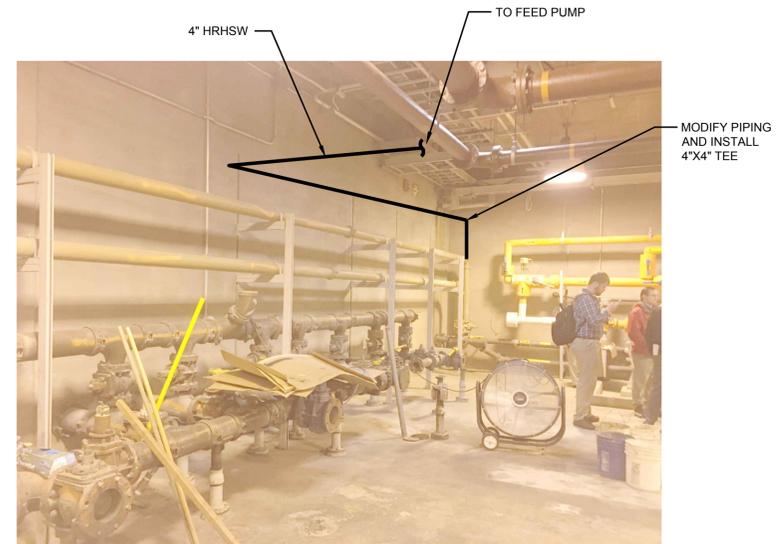


PHOTO LOOKING SOUTHWEST

NO.	REVISIONS	DSGN	CHKD	APVD	DATE

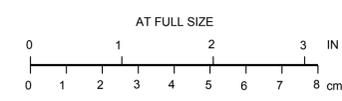


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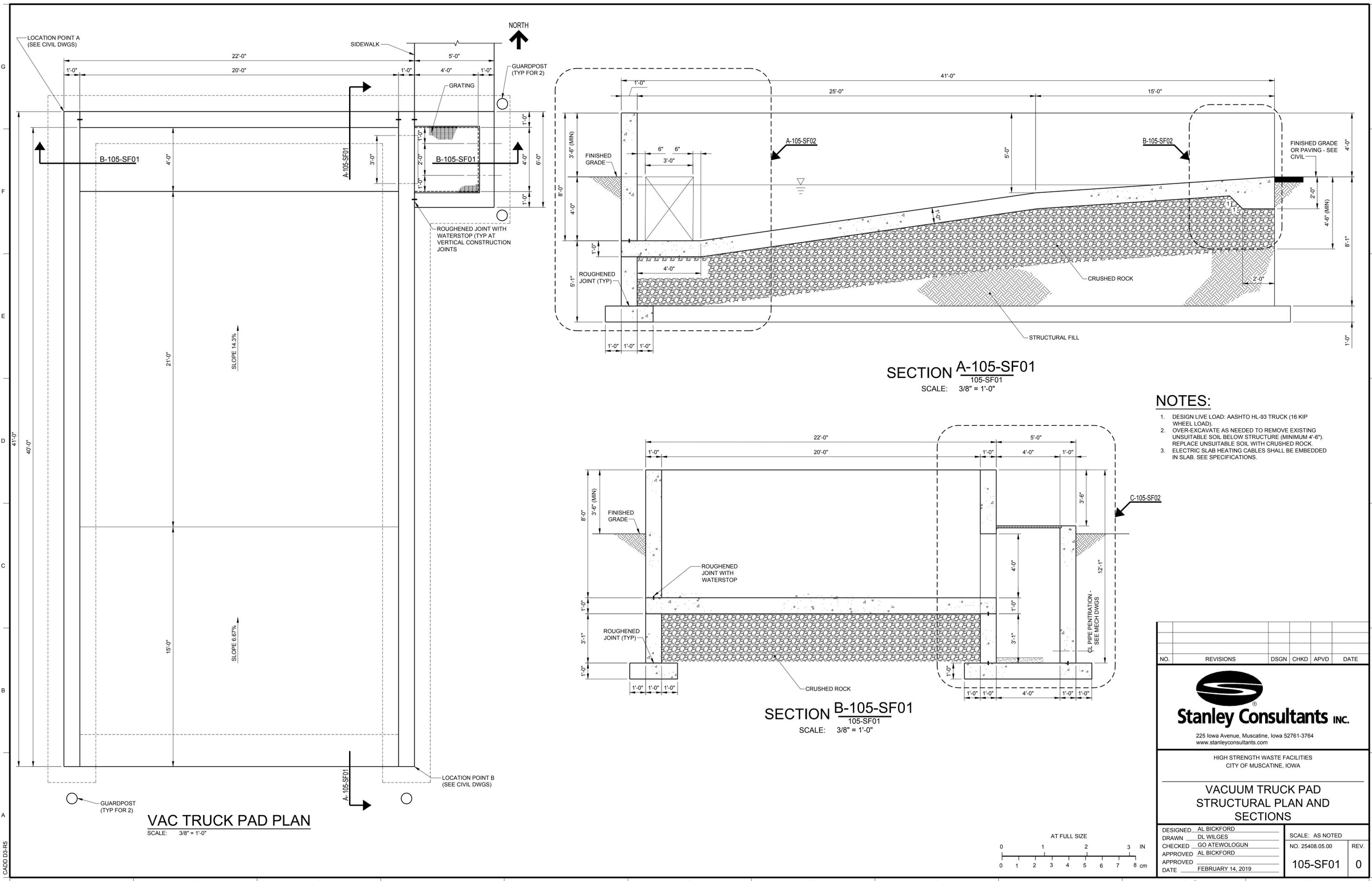
HIGH STRENGTH WASTE FACILITIES
CITY OF MUSCATINE, IOWA

**DIGESTER CONTROL BUILDING
LOWER LEVEL PROCESS PLAN**

DESIGNED	JM BRADY	SCALE:	AS NOTED
DRAWN	MK GRAVES	NO.	25408.05.00
CHECKED	DK MATHIAS	REV.	
APPROVED	JM BRADY		
DATE	FEBRUARY 14, 2019	65-MP01	0



CADD D33-R5



VAC TRUCK PAD PLAN

SCALE: 3/8" = 1'-0"

SECTION A-105-SF01

SCALE: 3/8" = 1'-0"

SECTION B-105-SF01

SCALE: 3/8" = 1'-0"

NOTES:

- DESIGN LIVE LOAD: AASHTO HL-93 TRUCK (16 KIP WHEEL LOAD).
- OVER-EXCAVATE AS NEEDED TO REMOVE EXISTING UNSUITABLE SOIL BELOW STRUCTURE (MINIMUM 4'-6"). REPLACE UNSUITABLE SOIL WITH CRUSHED ROCK.
- ELECTRIC SLAB HEATING CABLES SHALL BE EMBEDDED IN SLAB. SEE SPECIFICATIONS.

NO.	REVISIONS	DSGN	CHKD	APVD	DATE



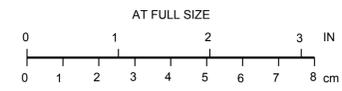
Stanley Consultants INC.

225 Iowa Avenue, Muscatine, Iowa 52761-3764
www.stanleyconsultants.com

HIGH STRENGTH WASTE FACILITIES
CITY OF MUSCATINE, IOWA

**VACUUM TRUCK PAD
STRUCTURAL PLAN AND
SECTIONS**

DESIGNED: AL BICKFORD	SCALE: AS NOTED
DRAWN: DL WILGES	NO. 25408.05.00
CHECKED: GO ATEWOLOGUN	REV. 0
APPROVED: AL BICKFORD	105-SF01
APPROVED: [Signature]	DATE: FEBRUARY 14, 2019



CADD D3-R5