

TEACHING DAIRY BARN EXPERIMENTAL
ANAEROBIC DIGESTER ENABLING

CORNELL UNIVERSITY
ITHACA, NY 14850

CONSTRUCTION DOCUMENTS
OCTOBER 24, 2025

DRAWING SHEET LIST:

GENERAL

G-000 COVER SHEET

CIVIL

C-100 EXISTING CONDITIONS PLAN
C-101 SITE PREPARATION PLAN
C-102 SITE PLAN
C-103 GRADING AND DRAINAGE PLAN
C-104 UTILITY PLAN
C-105 UTILITY STUB UP PLAN
C-500 SITE DETAILS
C-501 SITE DETAILS

STRUCTURAL

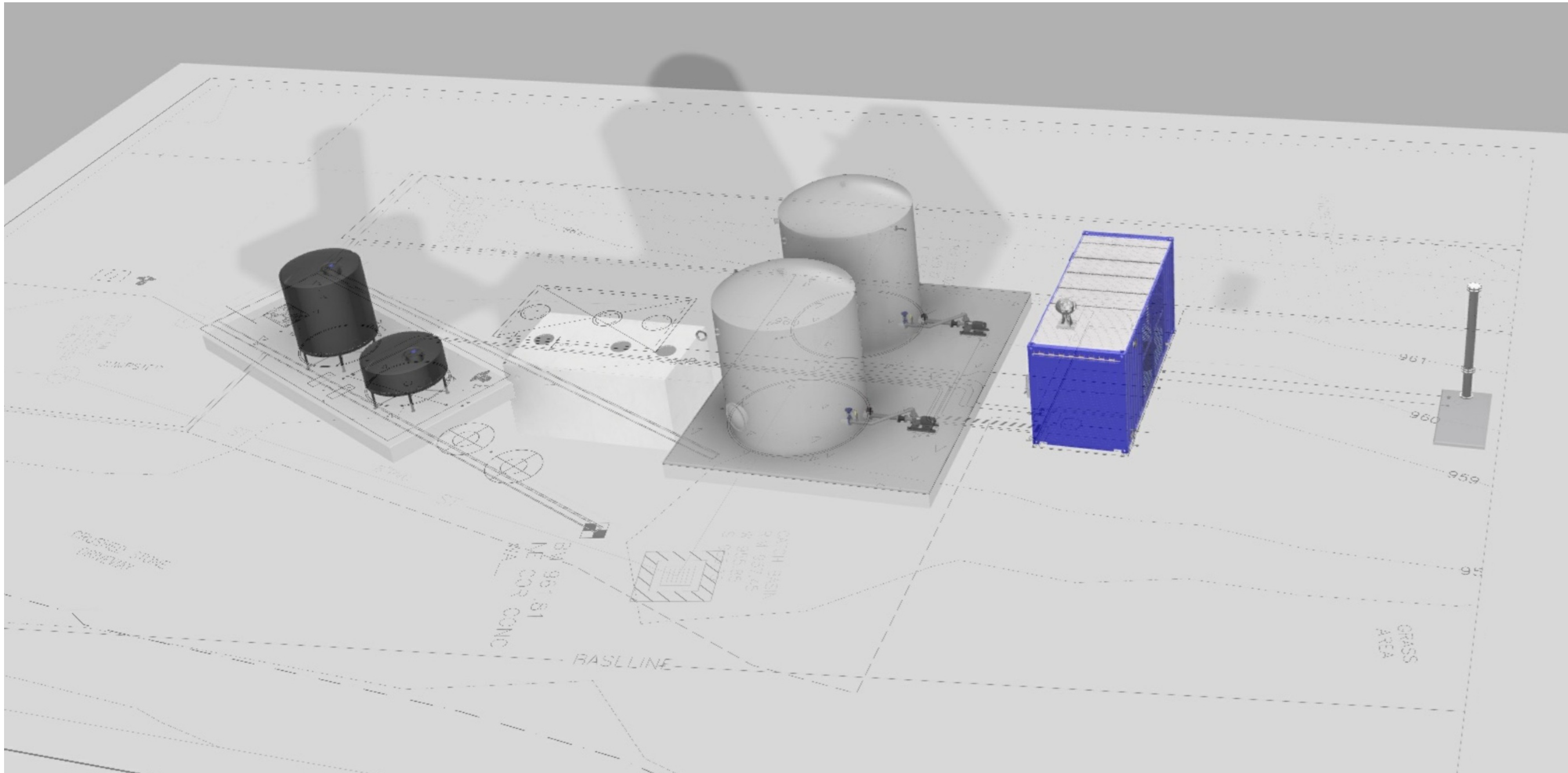
S-101 SLAB-ON-GRADE 1 DETAILS AND NOTES
S-102 SLAB-ON-GRADE 2 DETAILS AND NOTES
S-103 SLAB-ON-GRADE 3 AND FLARE STACK DETAILS AND NOTES

MECHANICAL

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ELECTRICAL

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E-101 ELECTRICAL SITE PLAN
E-102 ELECTRICAL PROCESS CONDUIT PLAN
E-500 ELECTRICAL DETAILS AND SCHEDULES



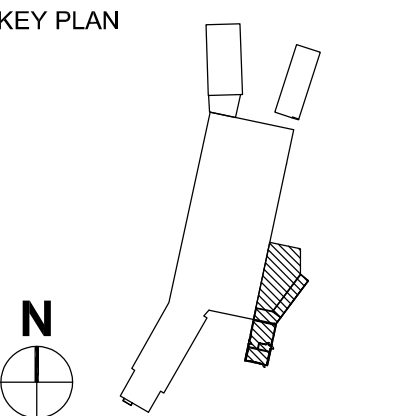
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PROJECT #:	19640.08
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CHECKED BY:	MDW
SCALE:	NONE

VERIFY SCALE

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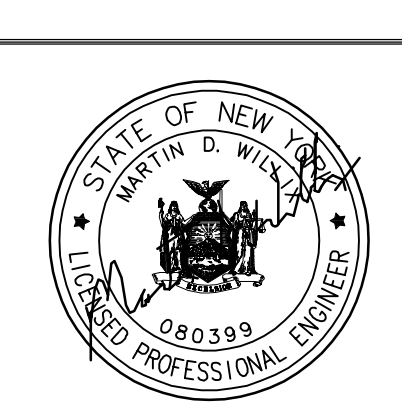
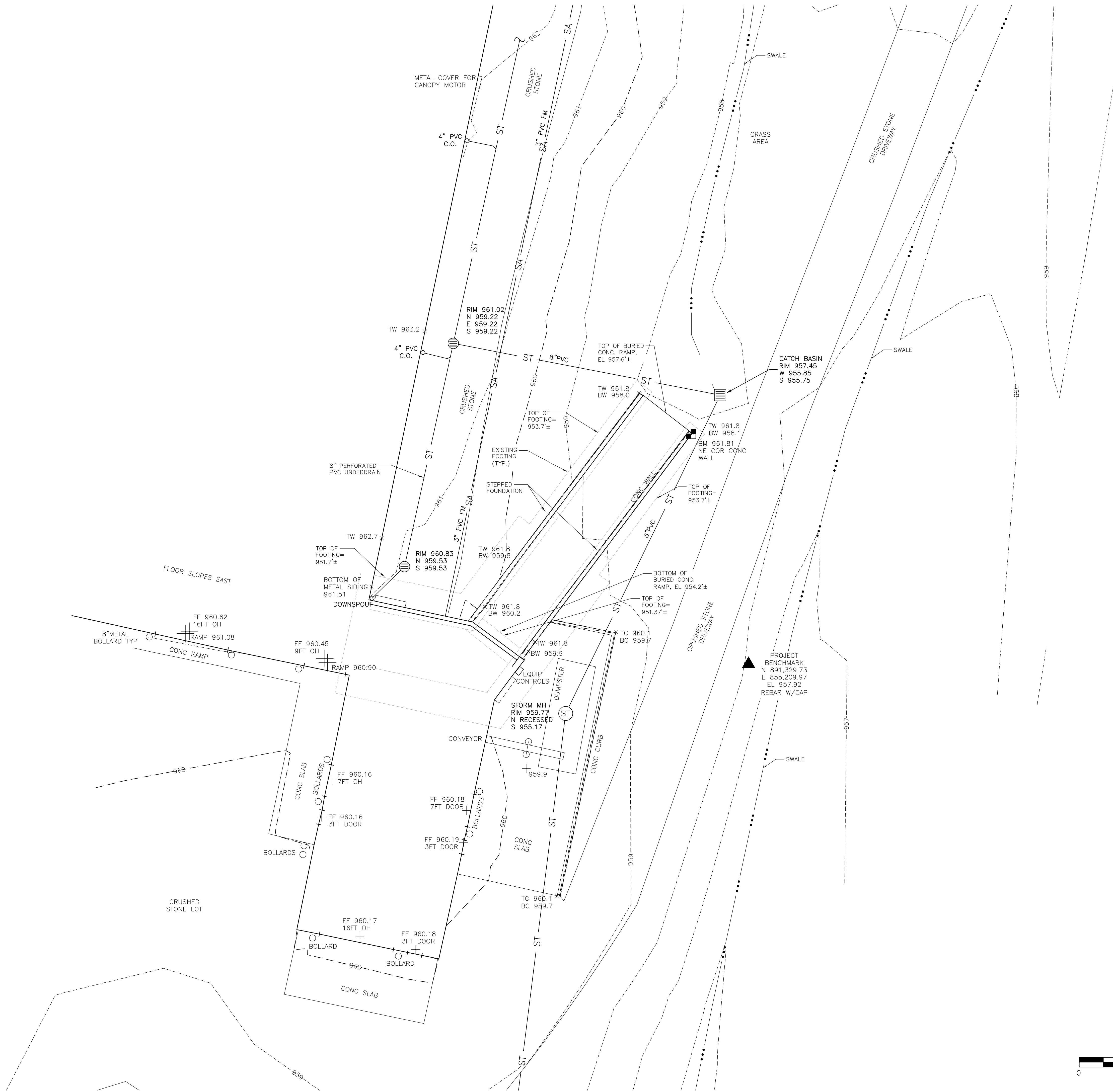
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COVER
SHEET

G-000

- LEGEND**
- CENTERLINE DITCH/EDGE WATER
 - EDGE ROAD (UNPAVED)
 - MAJOR CONTOUR LINE
 - MINOR CONTOUR LINE
 - SANITARY SEWER LINE
 - STORM SEWER LINE
 - GAS LINE
 - FENCE (TYPE NOTED)
 - SINGLE POST SIGN
 - DRAIN/CATCH BASIN/MANHOLE
 - SURVEY CONTROL POINT/BENCHMARK
 - DOWNSPOUT
 - BOLLARD
 - SPOT ELEVATION



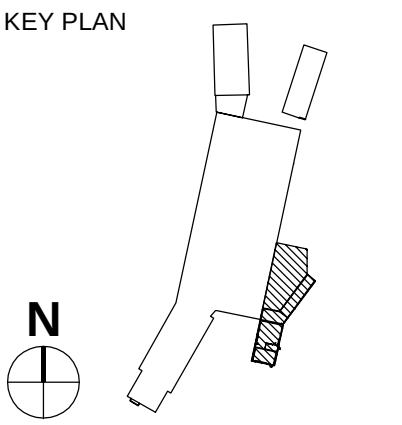
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EXISTING CONDITIONS
PLAN

C-100



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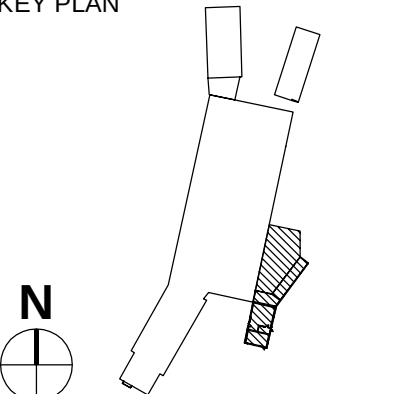
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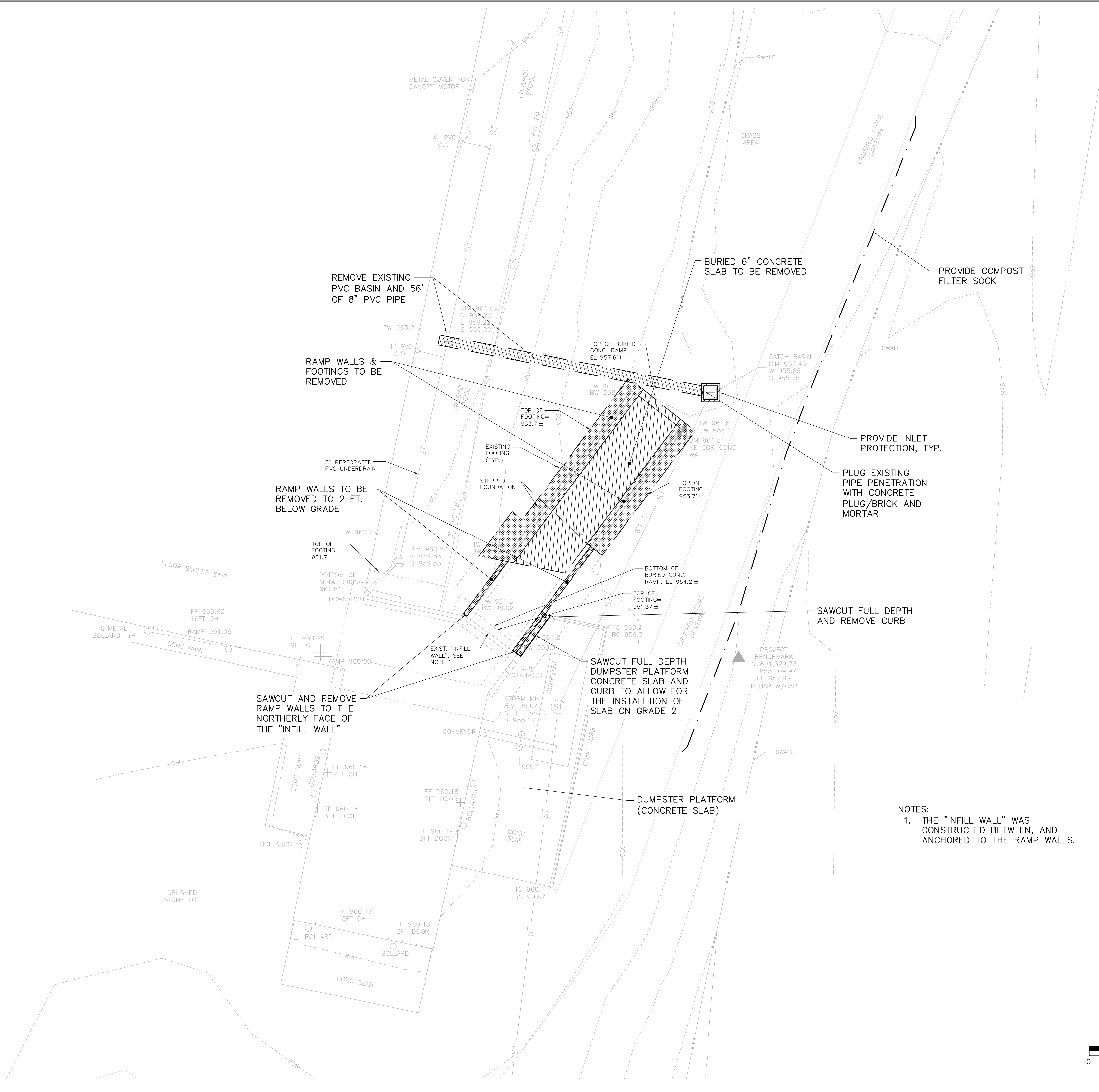
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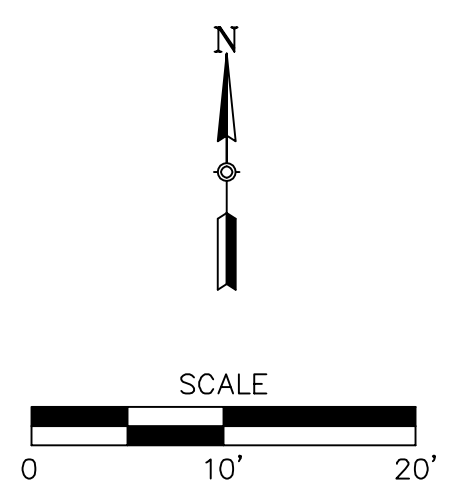
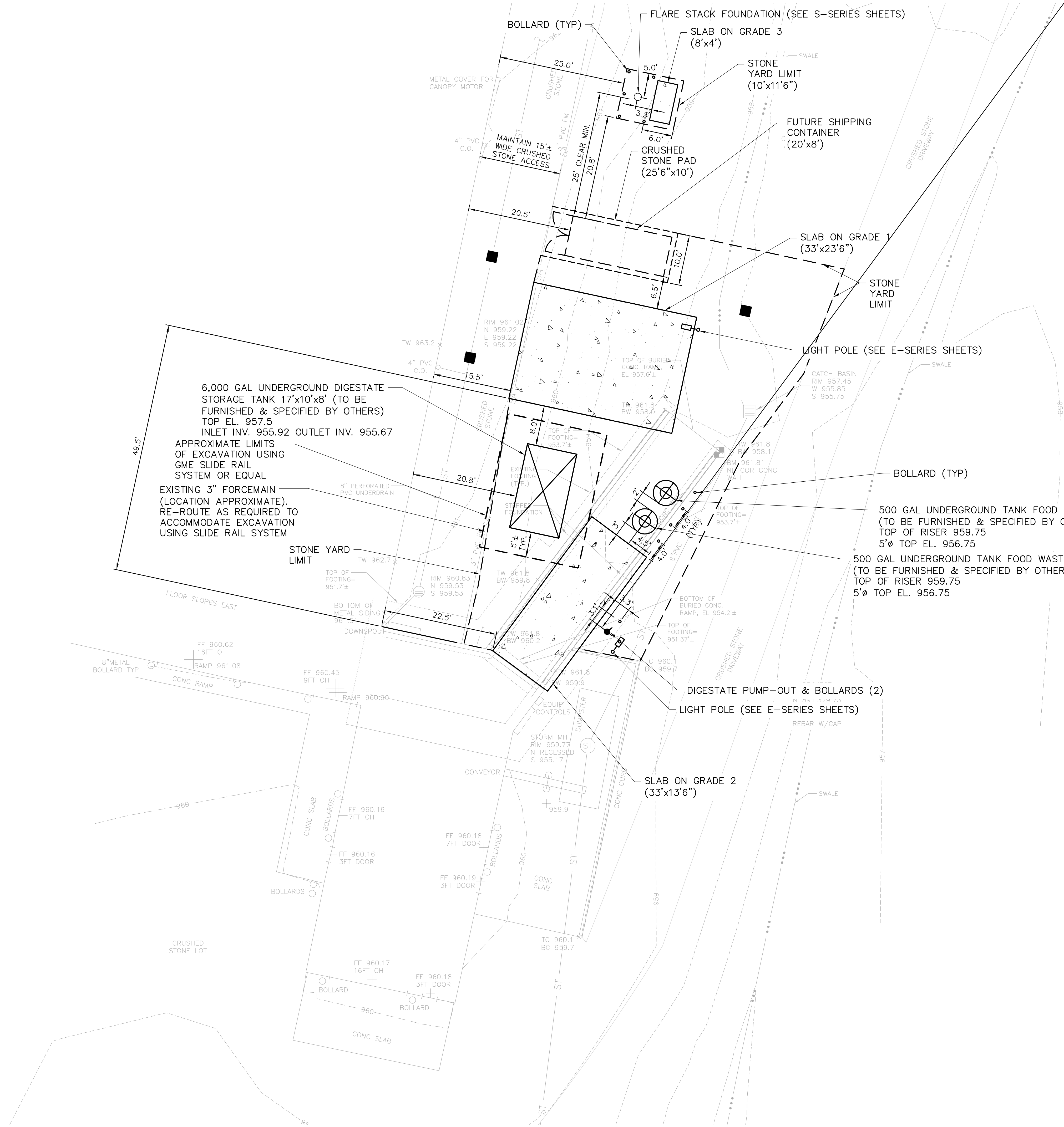
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IF BAR IS NOT ONE (1) INCH LONG,
ADJUST SCALE ACCORDINGLY

SITE PREPARATION
PLAN

C-101





ERDMAN
ANTHONY

145 Culver Road Suite 200
Rochester, NY 14620-1628
Telephone 585 427 5555
www.erdmananthony.com

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SITE PLAN

C-102



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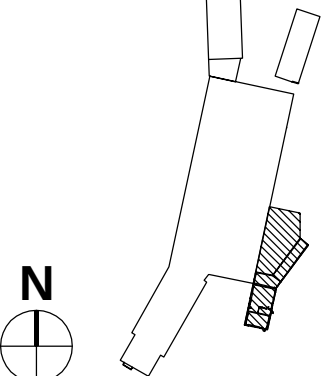
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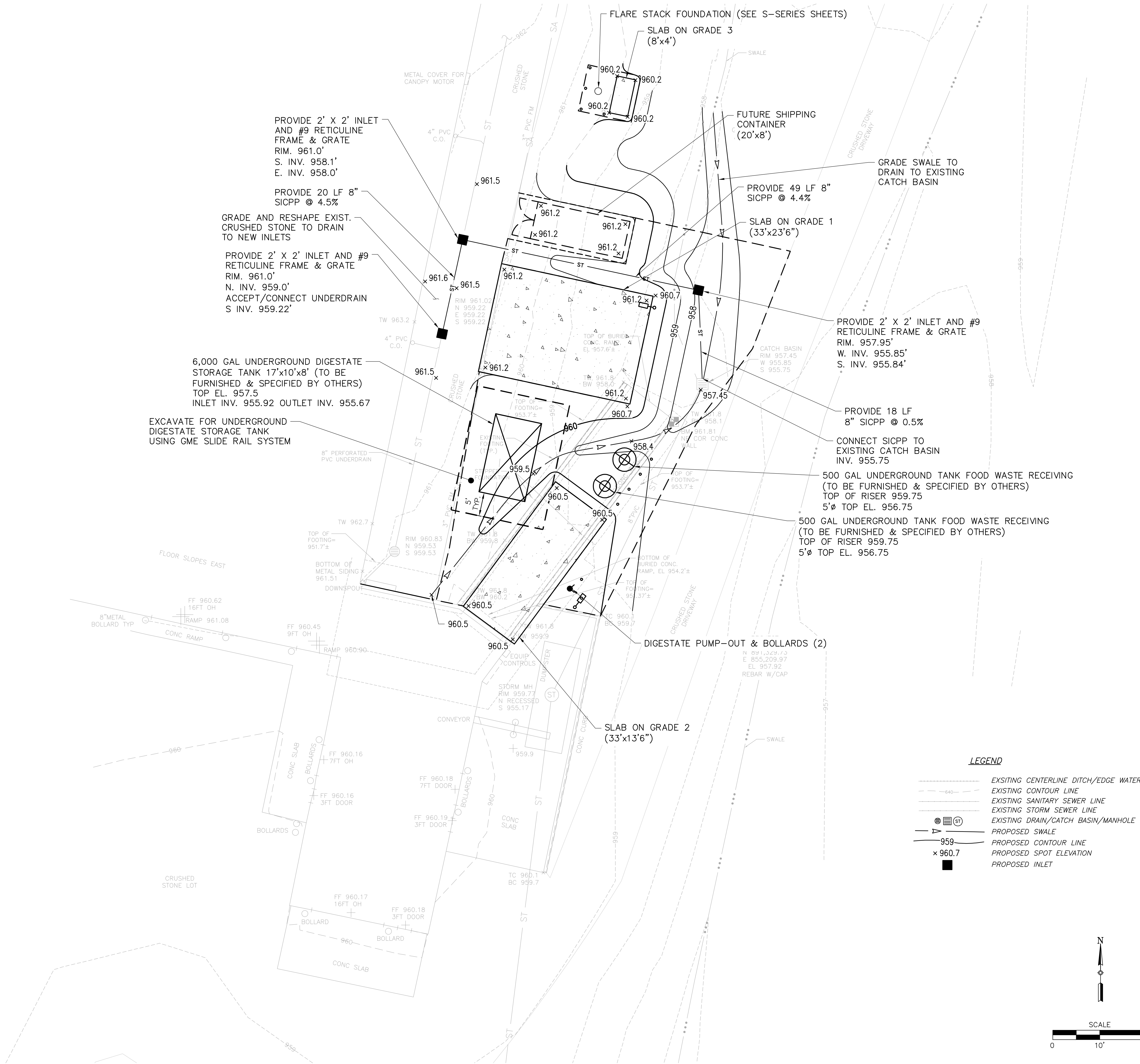
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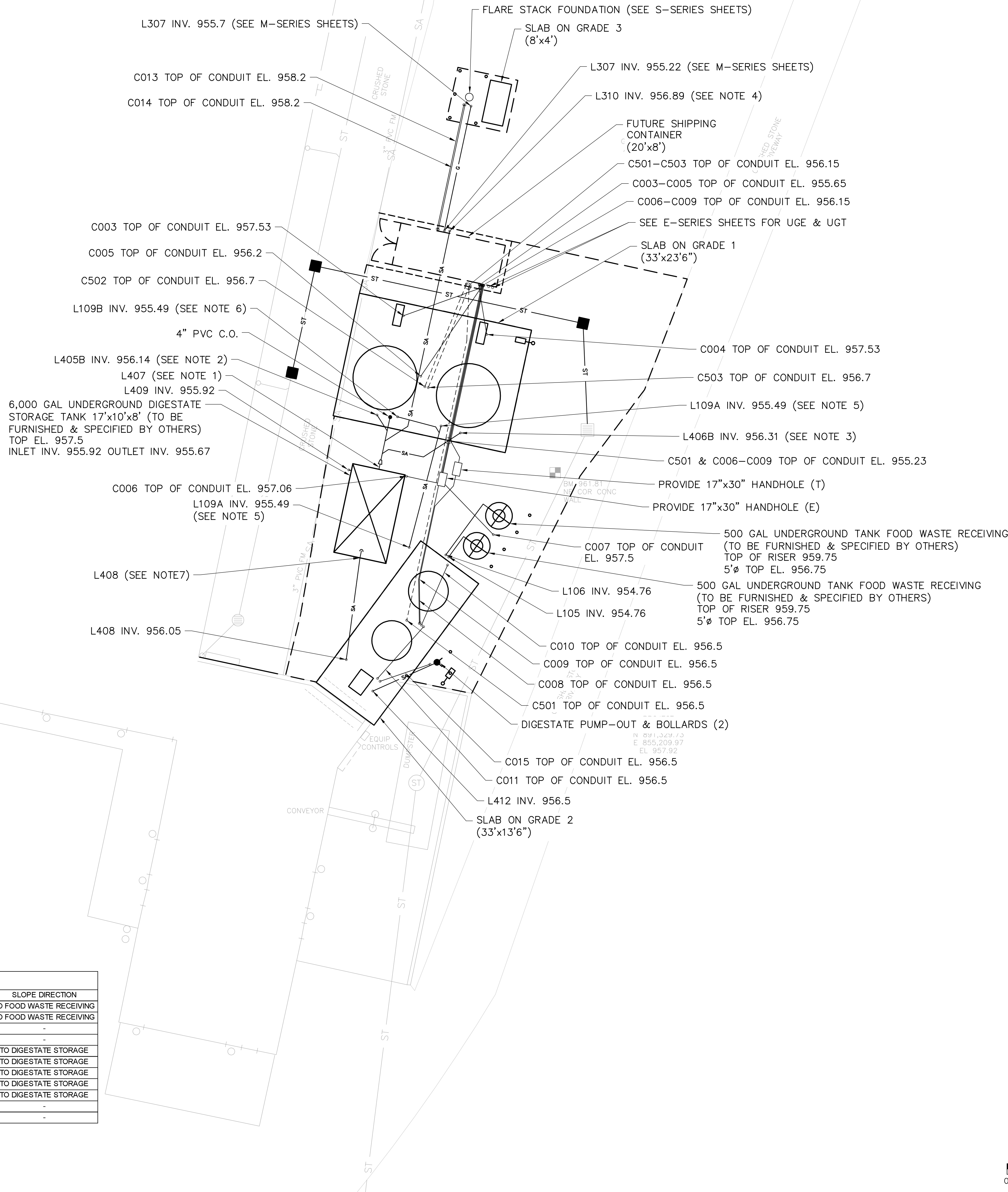
GRADING AND
DRAINAGE PLAN

C-103

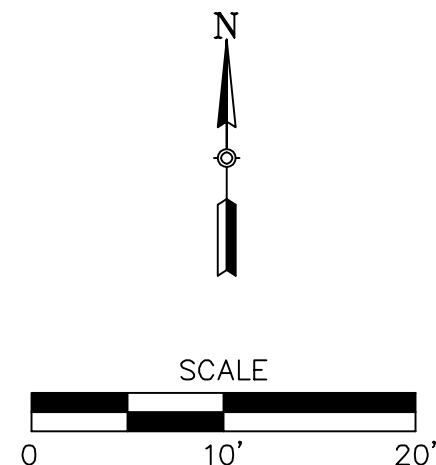


NOTES:

1. L407: PROVIDE 1.5LF± OF 8" SCH40 PVC & 8"x4" ECCENTRIC REDUCER.
2. L405B: PROVIDE 12LF± 4" SCH40 PVC, 4"x4" COMBINATION WYE FITTING, 4"x2" WYE FITTING, 4"x4" WYE FITTING, LONG SWEEP 90° FITTING, AND STUB UP 2' ABOVE FINISHED GRADE FOR CONNECTION BY OTHERS. PROVIDE 4" PVC C.O. FLUSH WITH FINISHED GRADE OF CONCRETE SLAB.
3. L406B: CONNECT TO L405B 4"x4" COMBINATION WYE FITTING. PROVIDE 16.5LF± 4" SCH40 PVC, 45° FITTING, LONG SWEEP 90° FITTING, AND STUB UP 2' ABOVE FINISHED GRADE FOR CONNECTION BY OTHERS.
4. L310: CONNECT TO L405B 4"x2" WYE FITTING. PROVIDE 43LF± 2" SCH40 PVC, 45° FITTING, LONG SWEEP 90° FITTING, AND STUB UP FOR CONNECTION TO SUMP PUMP M3001.
5. L109A: PROVIDE 24LF± 2" SCH40 PVC, 2"x2" COMBINATION WYE FITTING, AND LONG SWEEP 90° FITTINGS (2) FOR STUB UPS (2) 2' ABOVE FINISHED GRADE FOR CONNECTION BY OTHERS.
6. L109B: CONNECT TO L109A 2"x2" COMBINATION WYE FITTING. PROVIDE 9LF± 2" SCH40 PVC, LONG SWEEP 90° FITTING, AND STUB UP 2' ABOVE FINISHED GRADE FOR CONNECTION BY OTHERS.
7. L408: PIPE SLOPED BACK TOWARDS DIGESTATE STORAGE TANK. INSIDE THE TANK – PROVIDE 90° FITTING AND TERMINATE 6" ABOVE TANK FLOOR.



UNDERGROUND PROCESS PIPING SCHEDULE								
PIPE ID	SCHEDULE & MATERIAL	NOMINAL SIZE	INSULATION	FUTURE CONTENTS	BURIAL DEPTH	STUB-UP HEIGHT	SLOPE	SLOPE DIRECTION
L105	SCH. 40 PVC	2"	1"	FOODWASTE SLURRY	SEE PLAN	24"	2%	TO FOOD WASTE RECEIVING
L106	SCH. 40 PVC	2"	1"	FOODWASTE SLURRY	SEE PLAN	24"	2%	TO FOOD WASTE RECEIVING
L109A	SCH. 40 PVC	2"	1"	FEEDSTOCK SLURRY	SEE PLAN	24"	-	-
L109B	SCH. 40 PVC	2"	1"	FEEDSTOCK SLURRY	SEE PLAN	24"	-	-
L310	SCH. 40 PVC	2"	-	DIGESTATE	SEE PLAN	24"	2%	TO DIGESTATE STORAGE
L405B	SCH. 40 PVC	4"	-	DIGESTATE	SEE PLAN	24"	2%	TO DIGESTATE STORAGE
L406B	SCH. 40 PVC	4"	-	DIGESTATE	SEE PLAN	24"	2%	TO DIGESTATE STORAGE
L407	SCH. 40 PVC	8"	-	DIGESTATE	SEE PLAN	24"	2%	TO DIGESTATE STORAGE
L408	SCH. 40 PVC	3"	-	DIGESTATE	SEE PLAN	24"	2%	TO DIGESTATE STORAGE
L409	SCH. 40 PVC	2"	-	AIR	SEE PLAN	24"	-	-
L412	SCH. 40 PVC	4"	-	DIGESTATE	SEE PLAN	24"	-	-



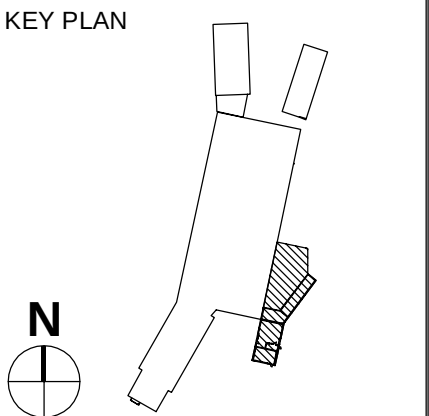
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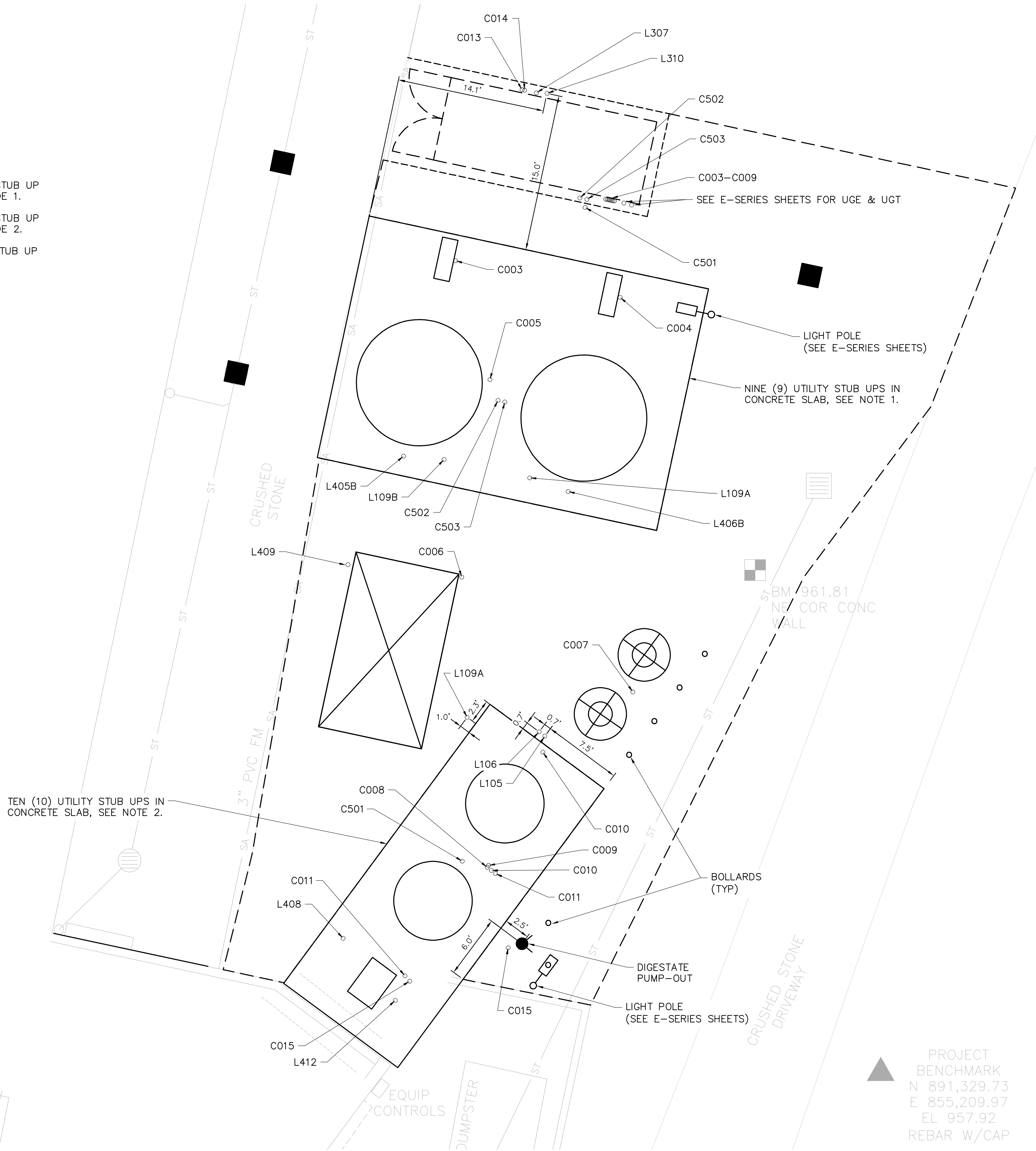
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UTILITY PLAN

NOTES:

1. REFER TO DRAWING S-101 FOR UTILITY STUB UP LOCATIONS IN CONCRETE SLAB-ON-GRADE 1.
2. REFER TO DRAWING S-101 FOR UTILITY STUB UP LOCATIONS IN CONCRETE SLAB-ON-GRADE 2.
3. REFER TO DRAWING E-102 FOR UTILITY STUB UP LOCATIONS FOR ELECTRIC CONDUITS.



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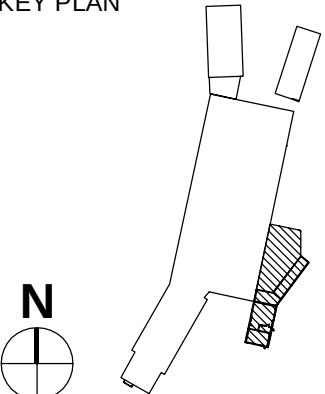
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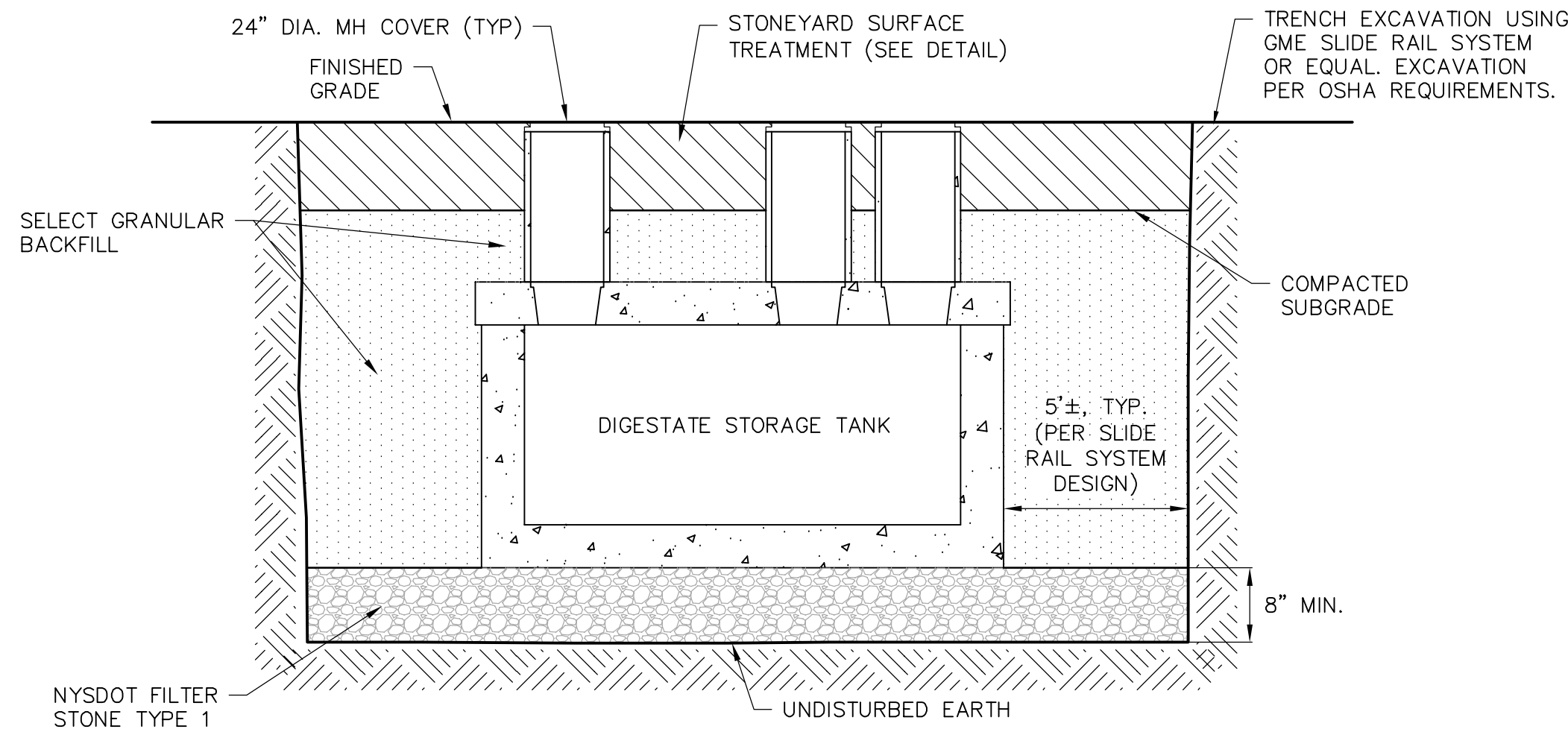
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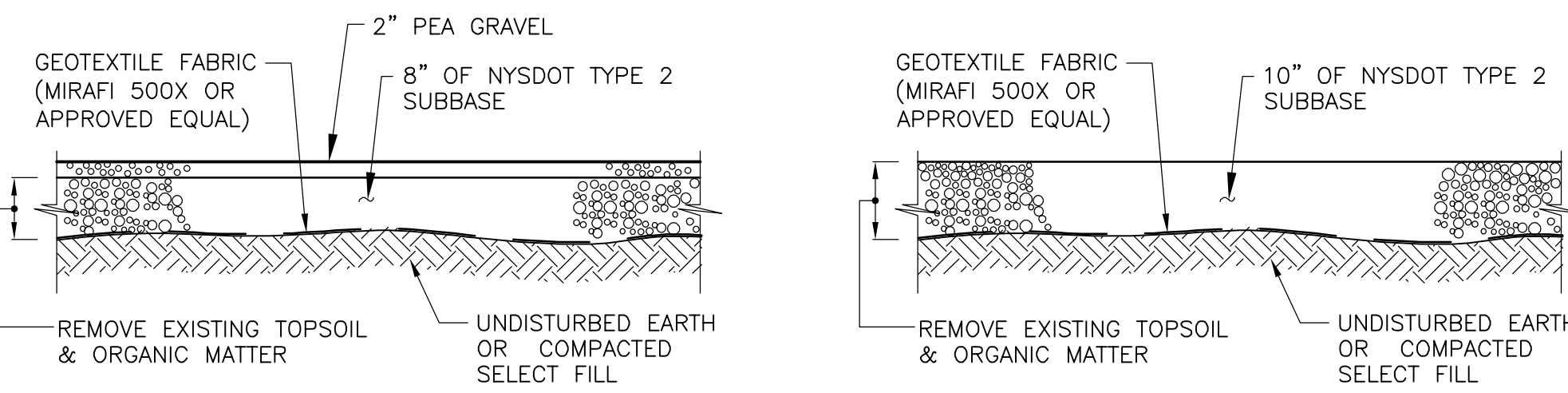
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UTILITY STUB UP PLAN

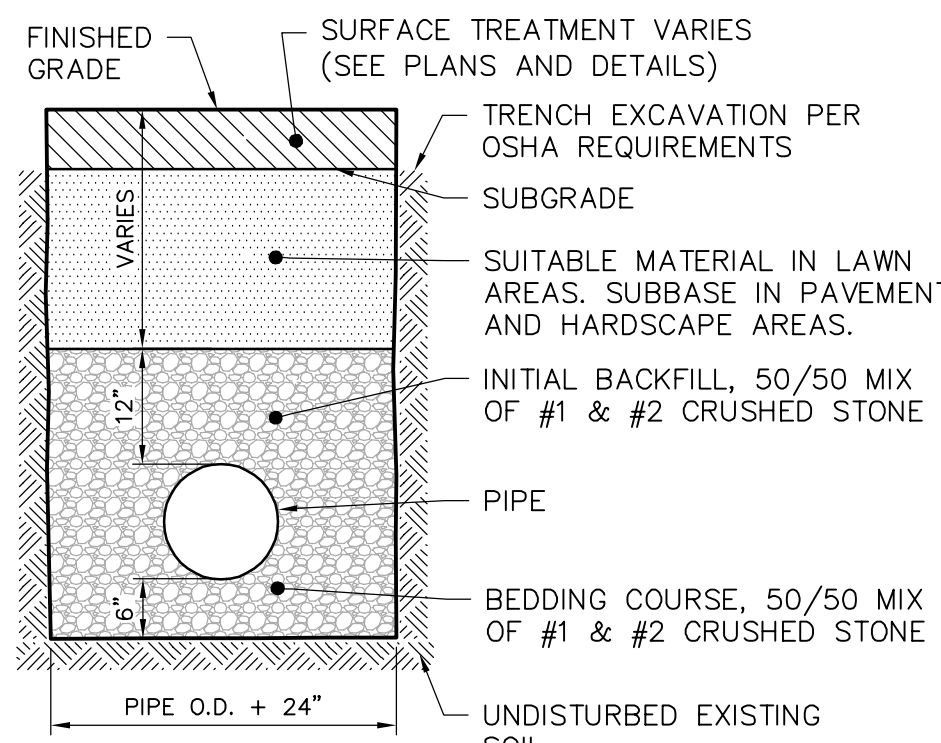
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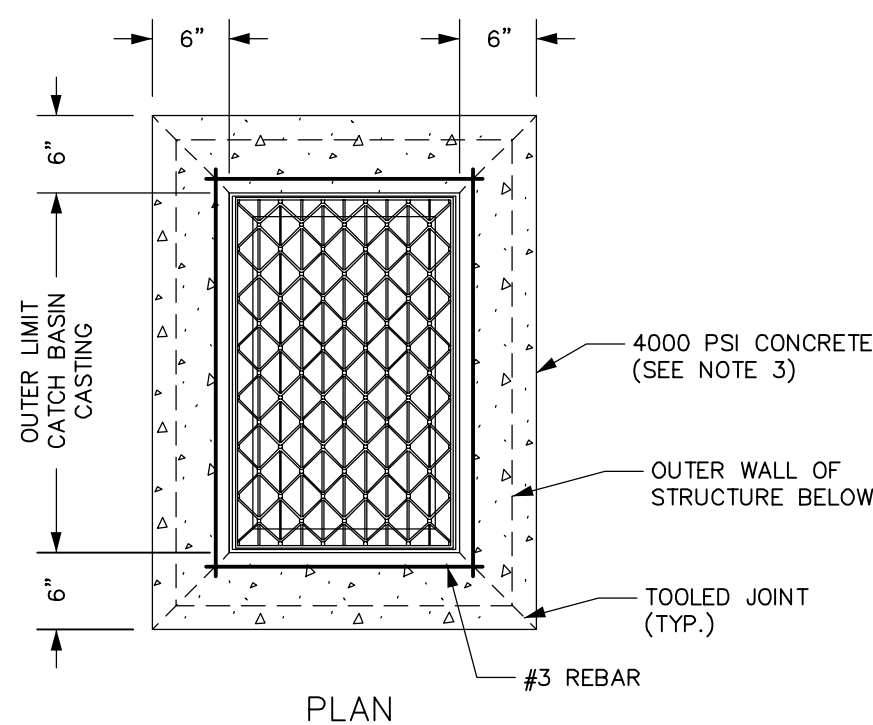
1 DIGESTATE STORAGE TANK LEVELING PAD & BACKFILL
N.T.S.



3 STONEYARD SECTION
N.T.S.

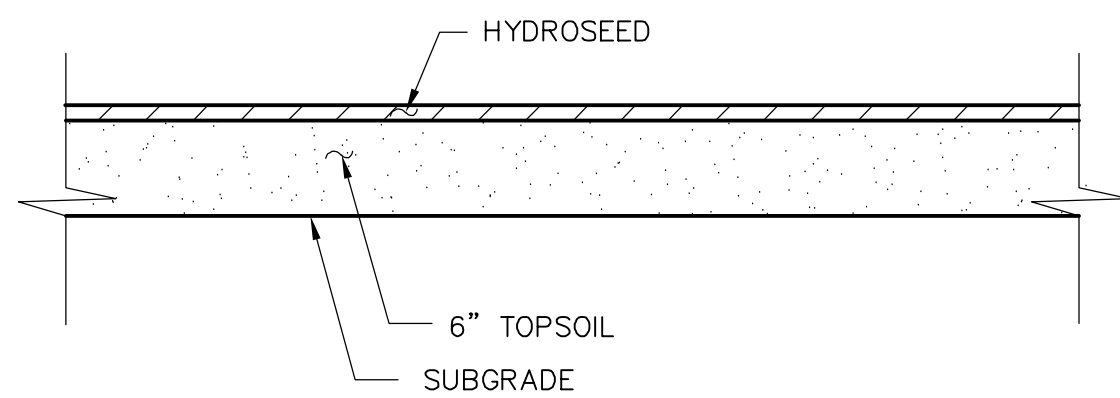


6 STORM PIPE TRENCH
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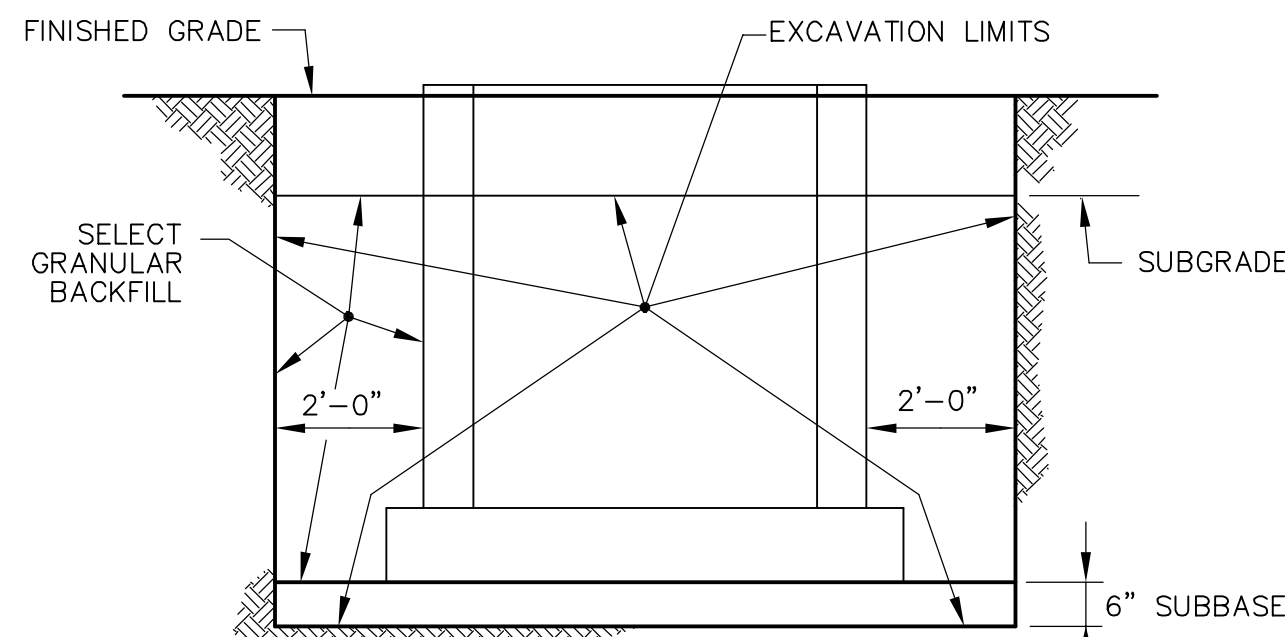


8 CONCRETE COLLAR FOR CATCH BASIN
N.T.S.

4 CRUSHED STONE PAD SECTION
N.T.S.



5 TURF ESTABLISHMENT
N.T.S.



7 EXCAVATION AND BACKFILL DETAIL
FOR DRAINAGE STRUCTURES
NOT TO SCALE

NOTES:

- CASTING AND TOP OF CONCRETE ARE TO BE IN SAME HORIZONTAL PLANE AS SURROUNDING SURFACE, TRUE TO LINE AND GRADE, WITH GRATE HAVING FULL CONTINUOUS AND UNIFORM BEARING CONTACT WITH FRAME.
- TOP OF GRATE IS TO BE LEVEL WITH TOP OF FRAME, STABLE AND IMMOVABLE WHEN IN PLACE AND WHEN UNDER INFLUENCE OF TRAFFIC OR ANY OTHER TYPE OF LOAD BEARING STRESS.
- HIGH EARLY STRENGTH CONCRETE IS TO BE USED FOR PLACEMENTS REQUIRED TO SATISFY OPEN TO TRAFFIC TIME REQUIREMENTS.
- USE SAME DIMENSION FOR WIDTH OF CONCRETE COLLAR ON ALL SIDES.



SPHERE TANK INSTALLATION PROCEDURES [99800015]

Prior to the start of installation, **record your model number and it's serial number.** This information will be required for any warranty claims. The installer must refer to, and comply with your state/county/local regulations. Snyder Installation instructions are secondary to these and should be used in conjunction with the state regulations.

- WARRANTY**
- Refer to **SITE SELECTION/PREPARATION & DO's & DON'Ts** located at www.snydernet.com.
 - Water runoff caused by sloping terrain, adjacent structures, or paved surfaces can be problematic if the site selection and installation are not managed properly. Refer to Snyder's SITE SELECTION/PREPARATION & DO's & DON'Ts located at www.snydernet.com on the proper methods of managing these issues. **Failure to locate the tank site properly in areas of water runoff caused by sloping terrain, adjacent structures or paved surfaces, and/or not managing the installation properly will void the warranty.**
 - Excavation [Figure 1]**
 - Installer must comply with all state, county and local codes and use extreme safety when installing this tank.
 - Burial depth [A] (top of tank to finish grade) may range from 9" to 36".
 - Side wall and end wall allowance [B] should be between 18" and 24".
 - Bedding [C] must be a well-compacted 50% sand/gravel mixture with a minimum depth of 6" in soil terrain and 12" in rock terrain. Shift tank from side to side to help "settle" tank into bedding. USE 3/8" to 1/2" pea or river gravel. DO NOT USE CRUSHED ROCK!
 - Do not over excavate or "belly-out" the excavation—KEEP BOTTOM OF EXCAVATION FLAT (as shown).
 - Tank must be installed level side to side and end to end.
 - In pumping applications, venting is critical. Insure venting back to the house is maintained or install a vent.

NOTE: FAILURE TO COMPLY WITH ABOVE WILL VOID TANK WARRANTY.
 - Lid and Manhole Extension [Figure 2]**
 - Install manhole extension (Riser) in accordance with state/county and local code requirements.
 - Install the lid and/or manhole extension before the addition of backfill. (See back of this page for detail of lid and manhole extension installation.)
 - Note that inlet is higher than the outlet.

NOTE: FAILURE TO COMPLY WITH ABOVE WILL VOID TANK WARRANTY.
 - Backfilling Exterior [Figure 3 & 4]**
 - Clean debris-free native soil can be used as backfill material, provided it does not create voids greater than 1/2".
 - NOTE: USE OF ANY SOIL CONTAINING CLAY FOR BACKFILL WILL VOID WARRANTY.**
 - Backfill around the perimeter of the tank in 12" layers. Lightly compact each layer. NEVER BACKFILL ON ONE SIDE ONLY. BACKFILL ALL OF THE OUTLINE OF THE SEPTIC TANK UNIFORMLY IN 12" LAYERS. [Figure 3].
 - Backfill to the finish grade to a maximum depth of 36".
 - IMPORTANT:** Mound the soil over the septic tank to provide settling in the excavated area. The lid with riser must extend a maximum of 3" above finish grade or per applicable code. [Figure 4].

NOTE: FAILURE TO COMPLY WITH ABOVE WILL VOID TANK WARRANTY.

FAILURE TO FOLLOW ANY OF THESE INSTRUCTIONS WILL VOID THE WARRANTY.
IN NO CASE WILL SNYDER INDUSTRIES BE HELD LIABLE FOR ANY CONSEQUENTIAL DAMAGES.

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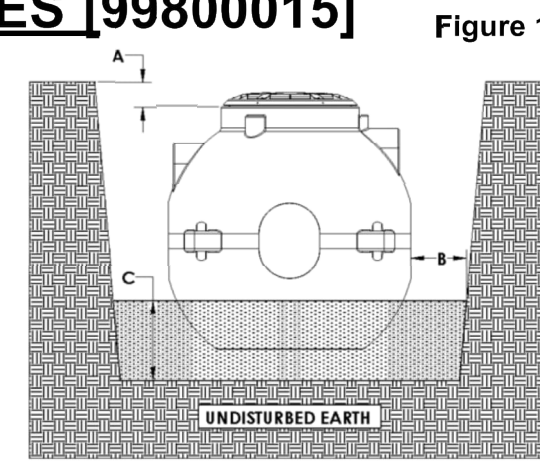


Figure 1

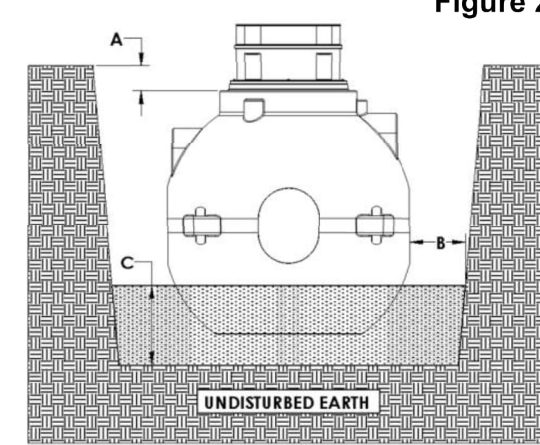


Figure 2

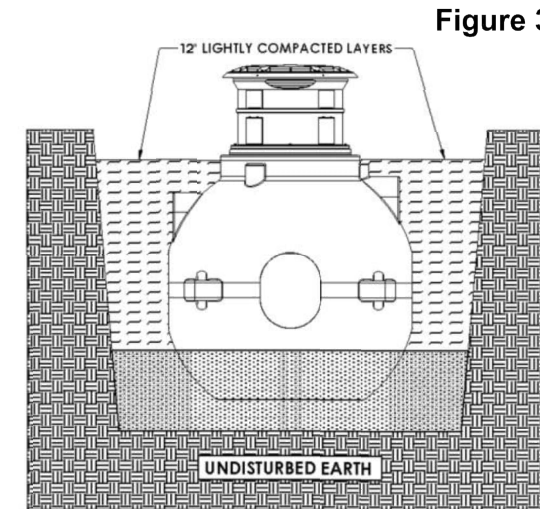


Figure 3

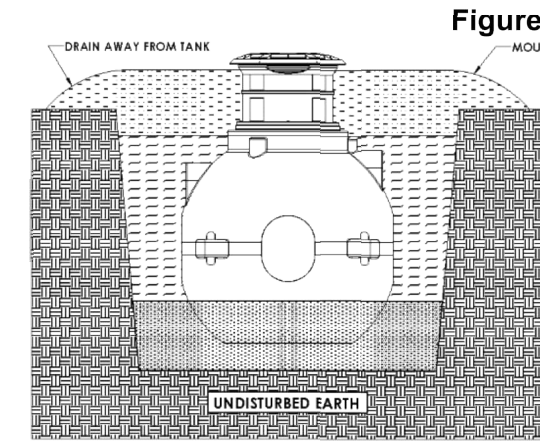
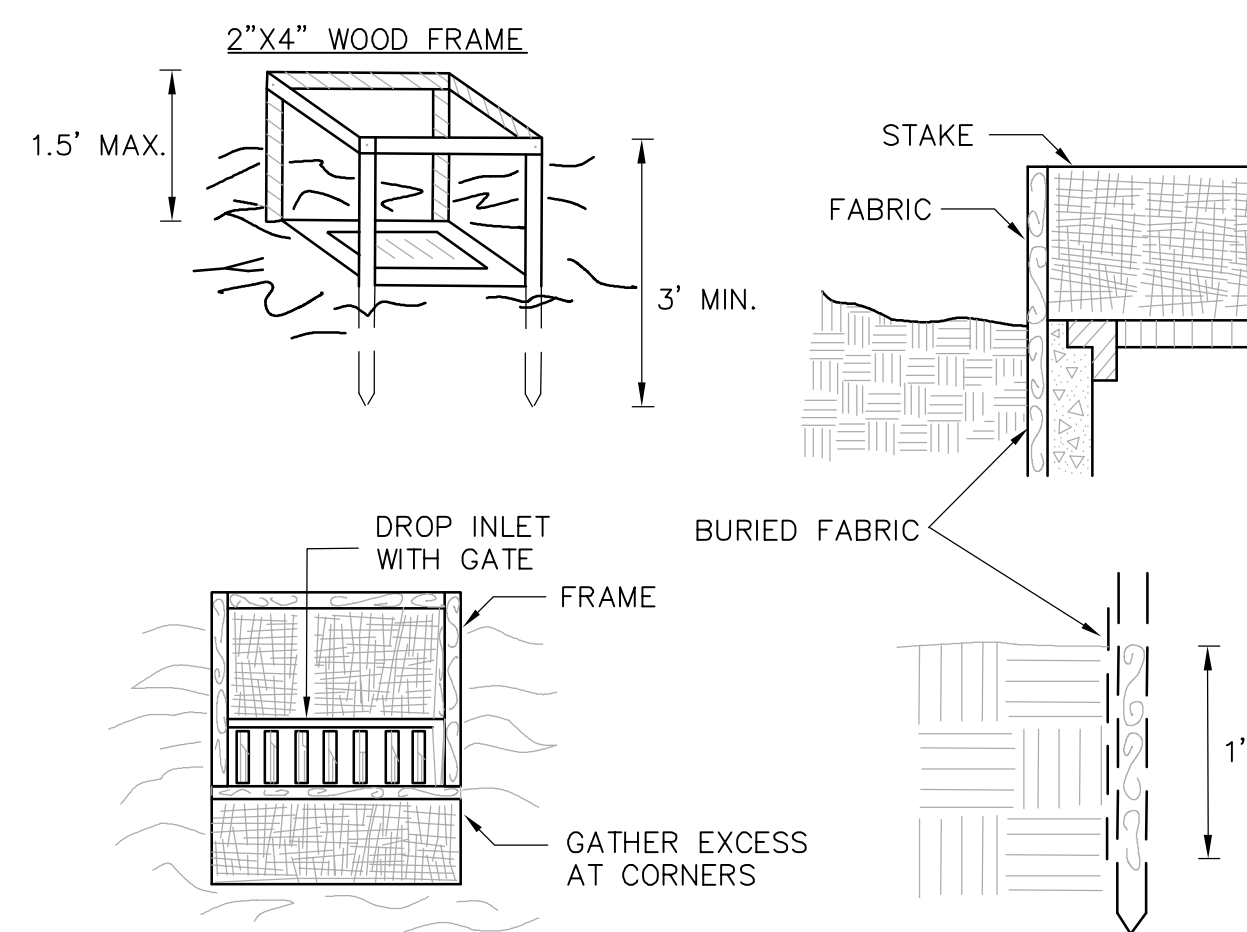


Figure 4

2 UNDERGROUND RECEIVING TANK LEVELING PAD & BACKFILL
N.T.S.



9 INLET PROTECTION DETAIL
N.T.S.

Sphere Tank Installation Procedures [99800015]

- General
 - Annual water table range must be determined prior to installation. Where saturated soil or seasonal high water tables are indicated above the bottom of the tank, immediately contact factory (402) 467-5221 or sales representative for special instructions.
 - Do not install the tank in paths of heavy equipment or vehicular traffic.
 - Tank is designed for underground use only.
 - Never use sharp objects around the tank (including forklift tines). They may puncture the tank.
 - Water temperature entering the tank must not exceed 130°F. Continuous operating temperatures above 100°F are not recommended.
 - Do not leave tank completely empty for extended periods of time.
 - In pumping applications, venting is critical. Insure venting back to the house is maintained or install a vent.
 - Check local codes for height of vent above finish grade.
 - For installation of additional tank accessories, it is important to check with local and state sanitarian for approved installation procedures.

NOTE: FAILURE TO COMPLY WITH ABOVE WILL VOID TANK WARRANTY

Securing Lid to Tank or Manhole Riser

[Figure 6 & 6.a.]

- Place lid onto the top of the tank and/or riser. Install six self-tapping bolts (included) through the bolt holes in the lid and into the tank wall. [Figure 7.a.]

If tamper resistant bolts are required or desired, utilize bolts and driver bit supplied in tamper-resistant kit (part no. 34701197) optional.

NOTE: FAILURE TO COMPLY WITH ABOVE WILL VOID TANK WARRANTY

Securing Riser to Tank or to another Riser [Figure 6 & 6.b.]

(Risers are stackable. Maintain the maximum 36" burial depth).

- Place riser onto the top of the tank and/or. Install eight stainless steel screws (not supplied) at 45° intervals as shown in [Figure 7.b.].
- Maintaining a watertight connection at each of these locations is critical to the operation of this septic tank.

NOTE: FAILURE TO COMPLY WITH ABOVE WILL VOID TANK WARRANTY

Warranty

Snyder warrants that if any manufactured tank product is proven to be defective in material or workmanship within three years from the date of manufacture, Snyder will (at company option) either replace or repair said part. This standard limited warranty does not apply to damages resulting from misuse, improper application of recommended materials, accident, or improper installation or maintenance. Remedy to the buyer is limited to the replacement of any defective product (or its component where applicable). F.O.B. point of manufacture. The buyer's remedy under this warranty does not include any other direct or indirect consequential damages which result from defects in material and/or workmanship of its products.

March 2020 - Rev. 5

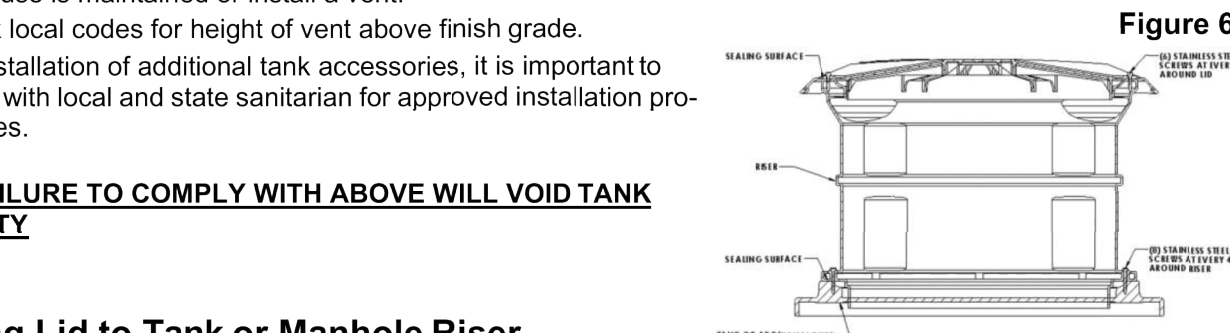


Figure 6

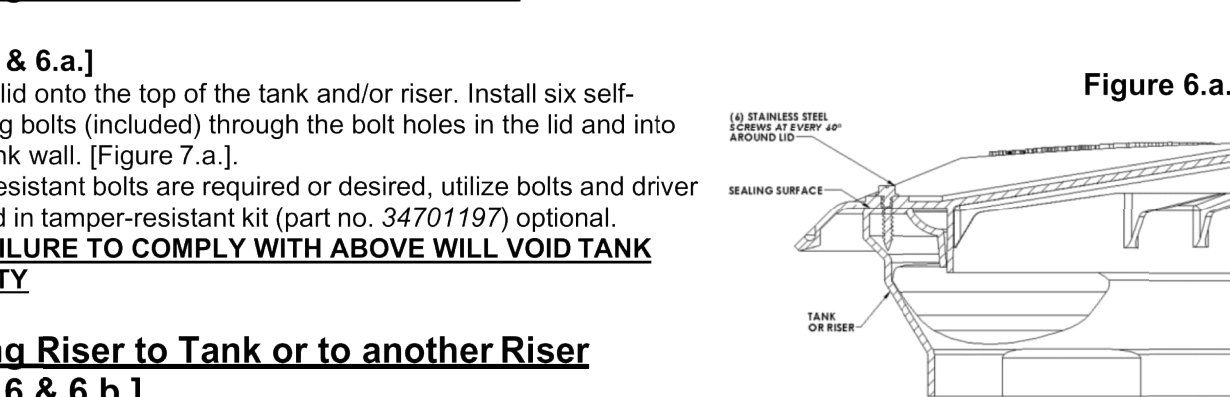


Figure 6.a.

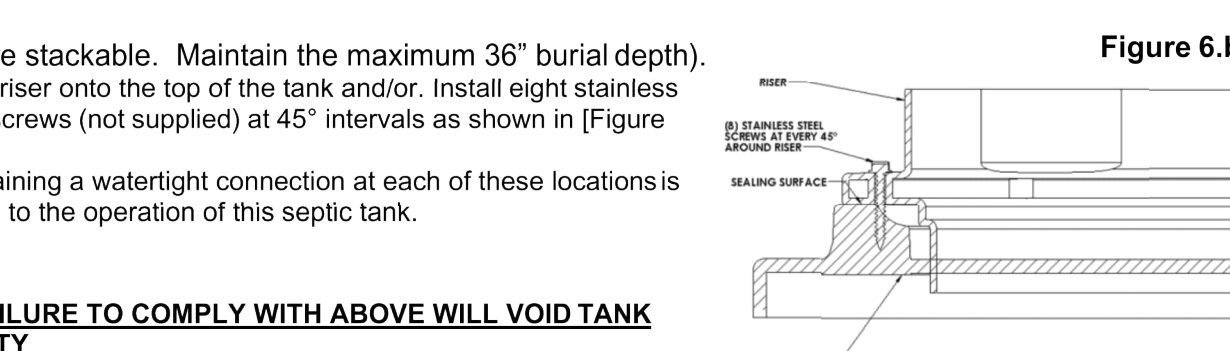
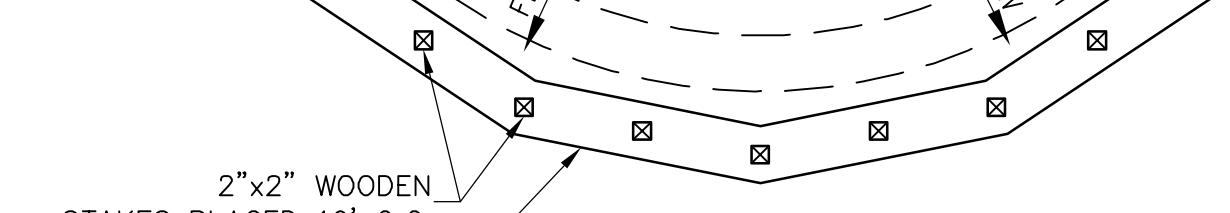
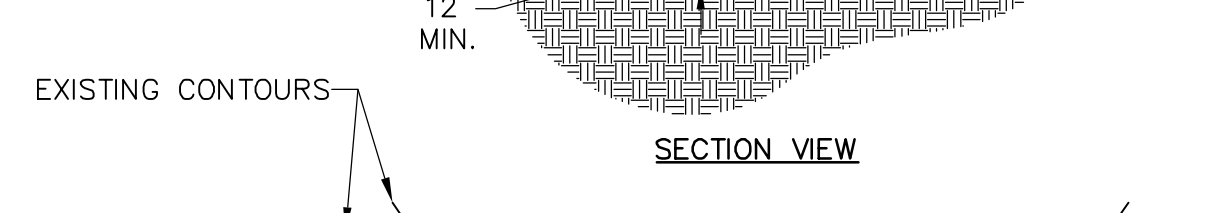
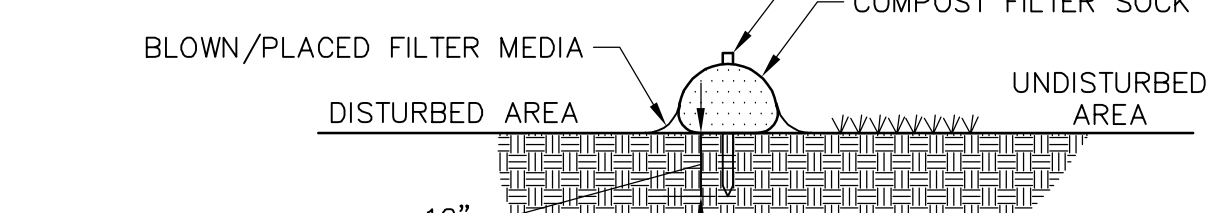
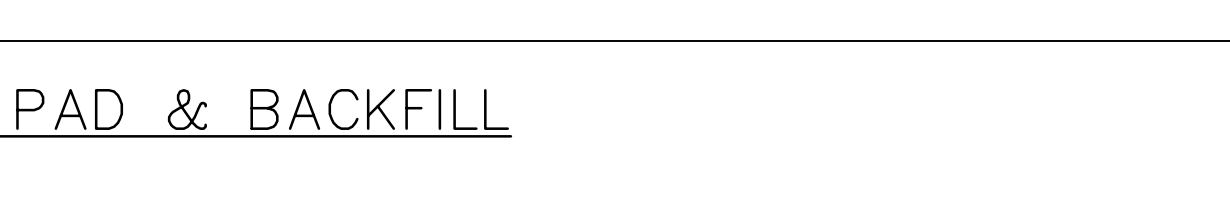
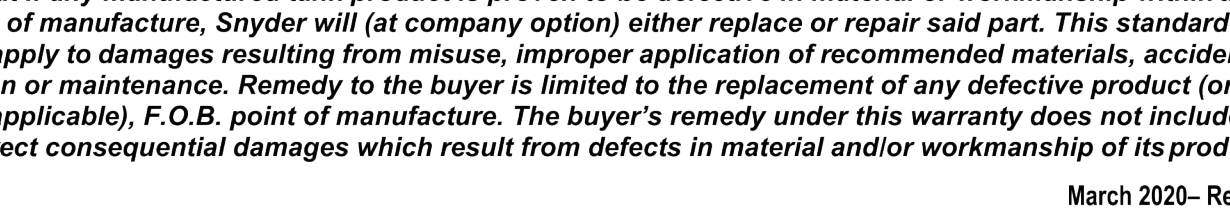


Figure 6.b.



10 COMPOST FILTER SOCK DETAIL
N.T.S.

ERDMAN
ANTHONY

145 Culver Road, Suite 200
Rochester, NY 14620-1618
Telephone: 585-427-8888
www.erdmananthony.com



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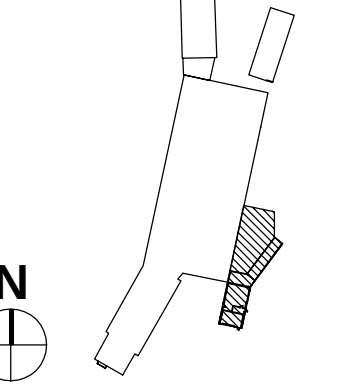
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CONSTRUCTION DOCUMENTS
TEACHING DAIRY BARN EXPERIMENTAL ANAEROBIC DIGESTER ENABLING
CORNELL UNIVERSITY
ITHACA, NY 14850

KEY PLAN



DATE:	10/24/2025
PROJECT #:	19640.08
DRAWN BY:	MJM
CHECKED BY:	MDW
SCALE:	AS NOTED

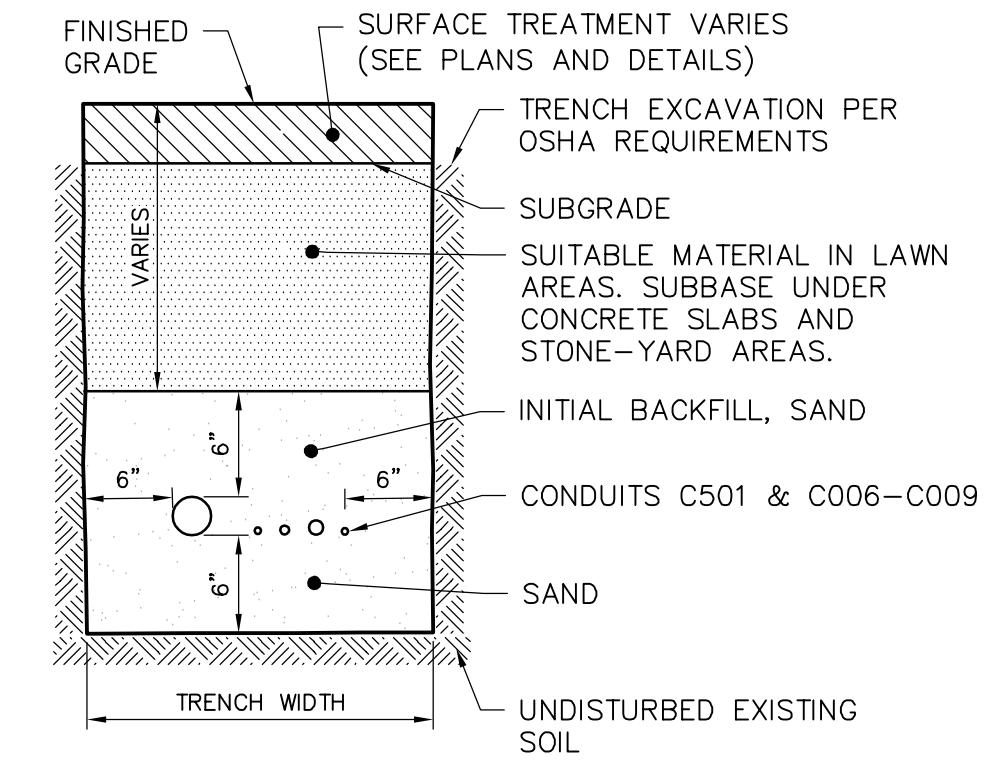
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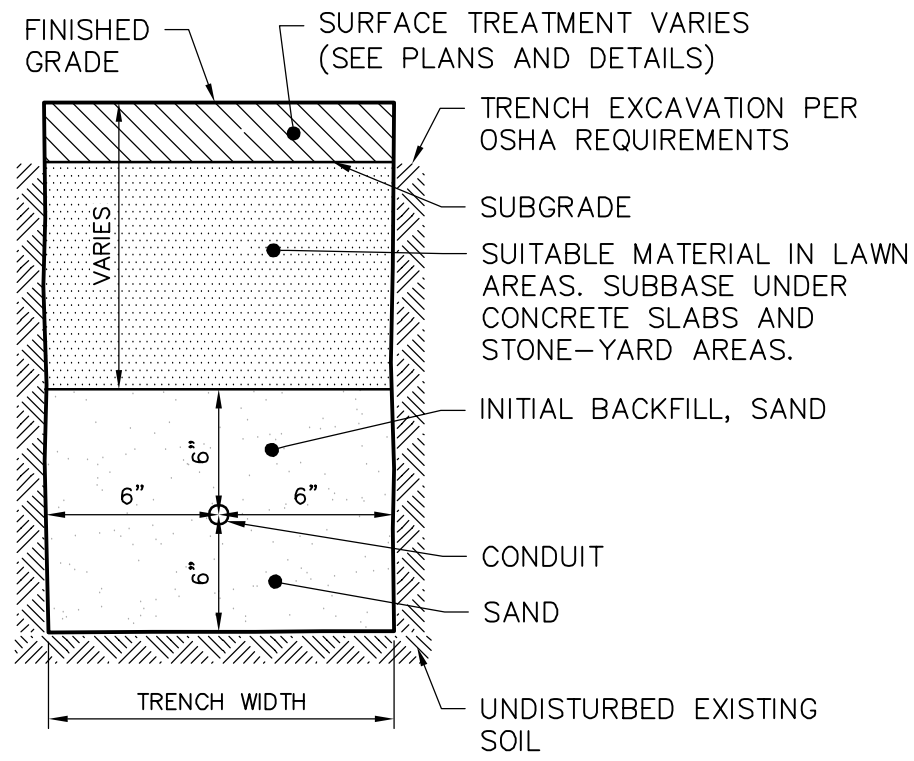
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SITE DETAILS

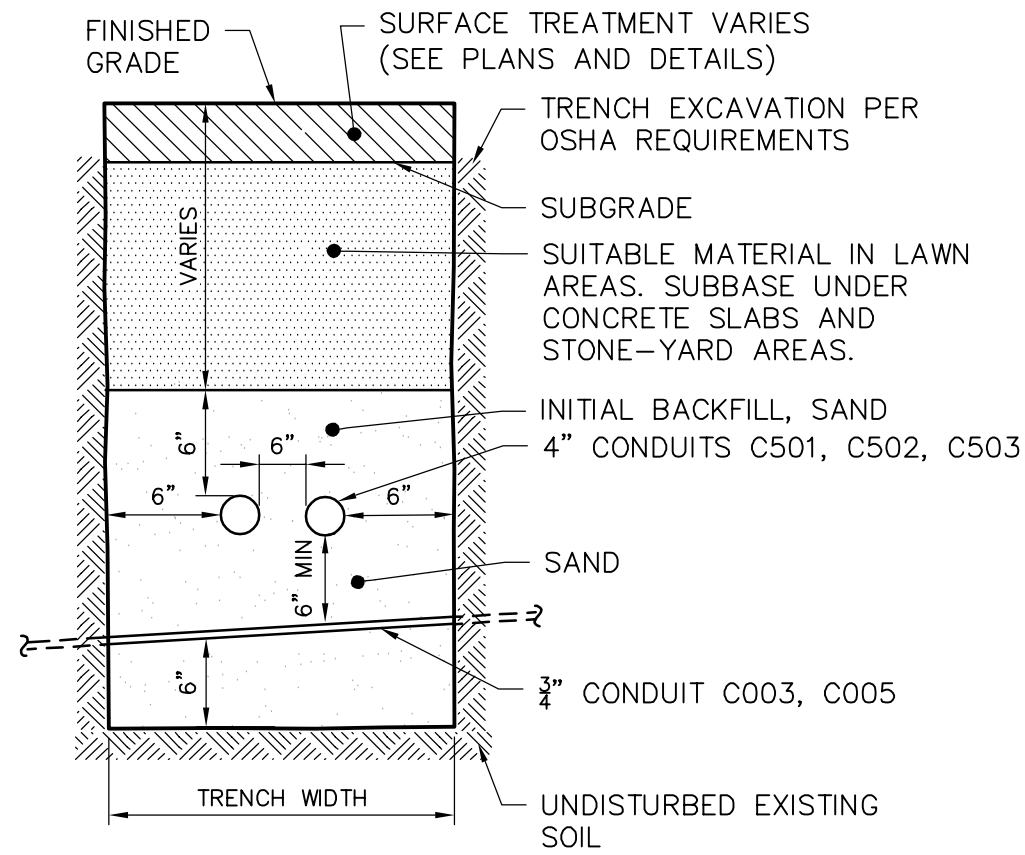
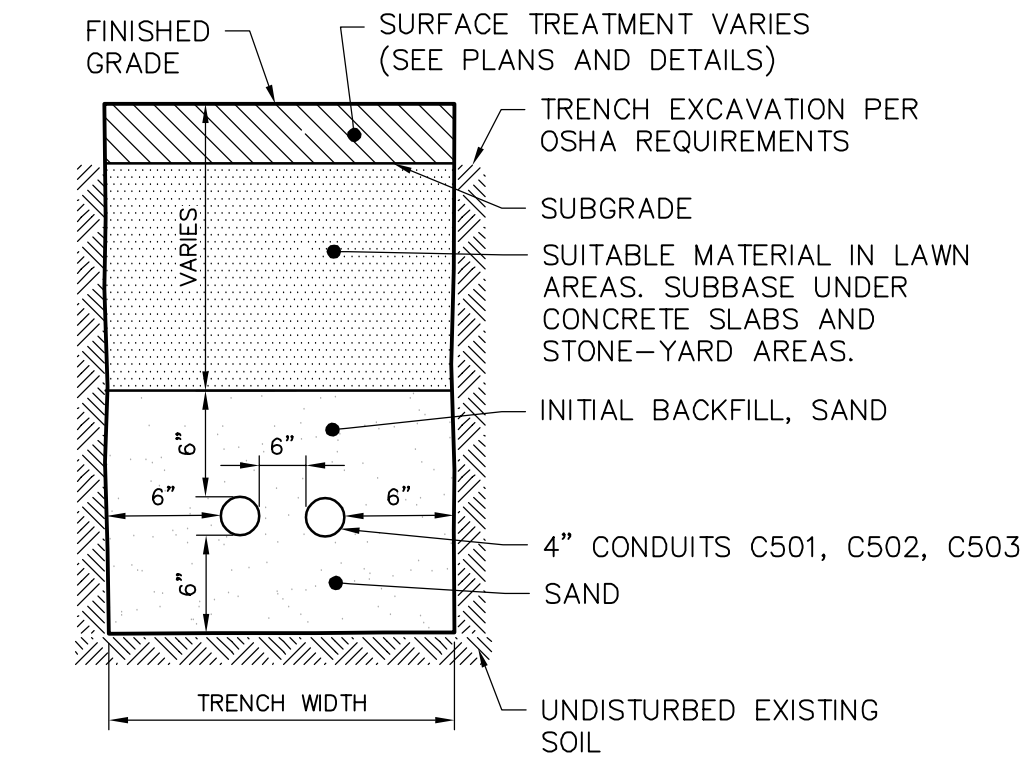
C-500



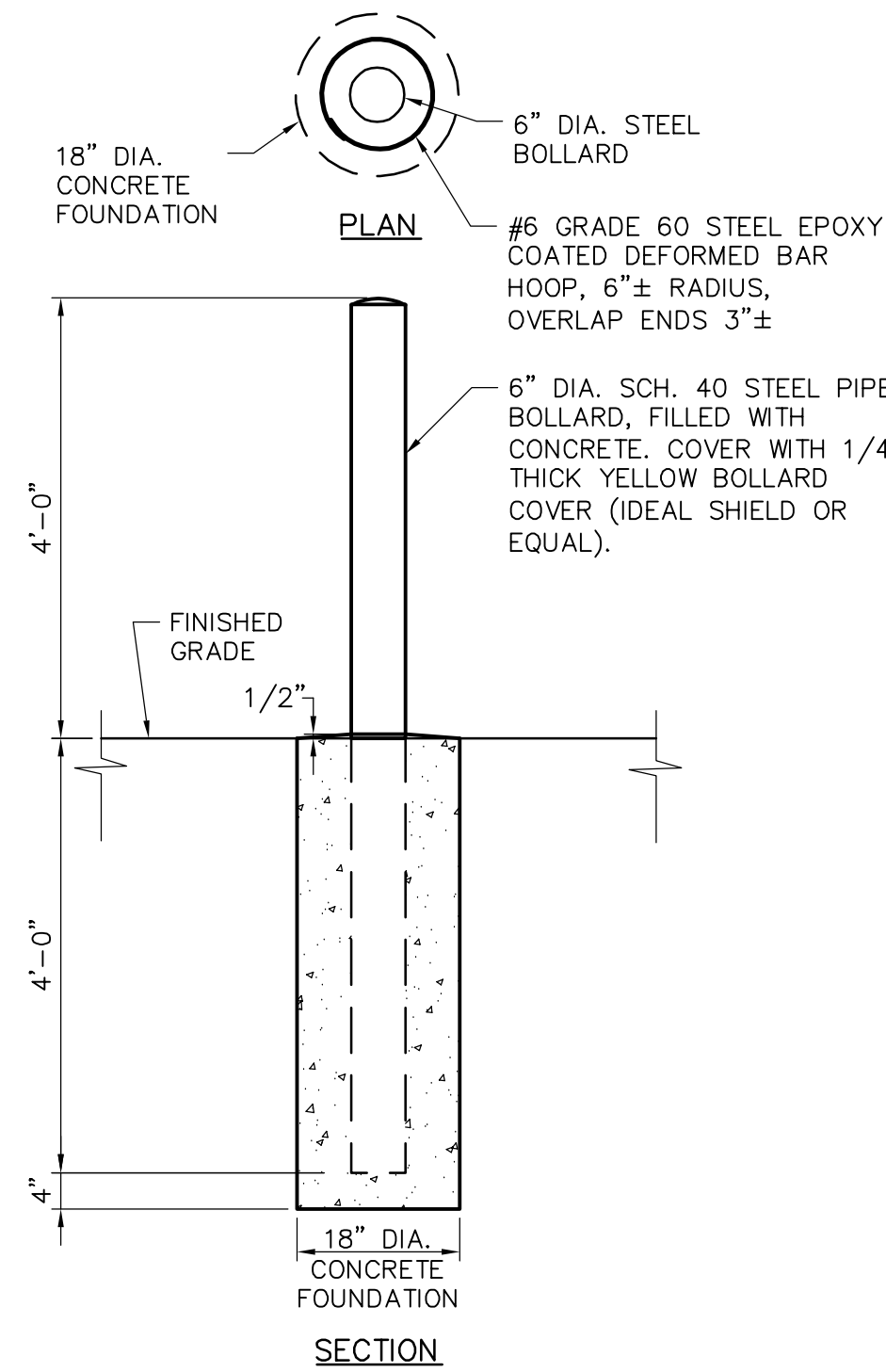
1 MULTI-CONDUIT TRENCH
N.T.S.



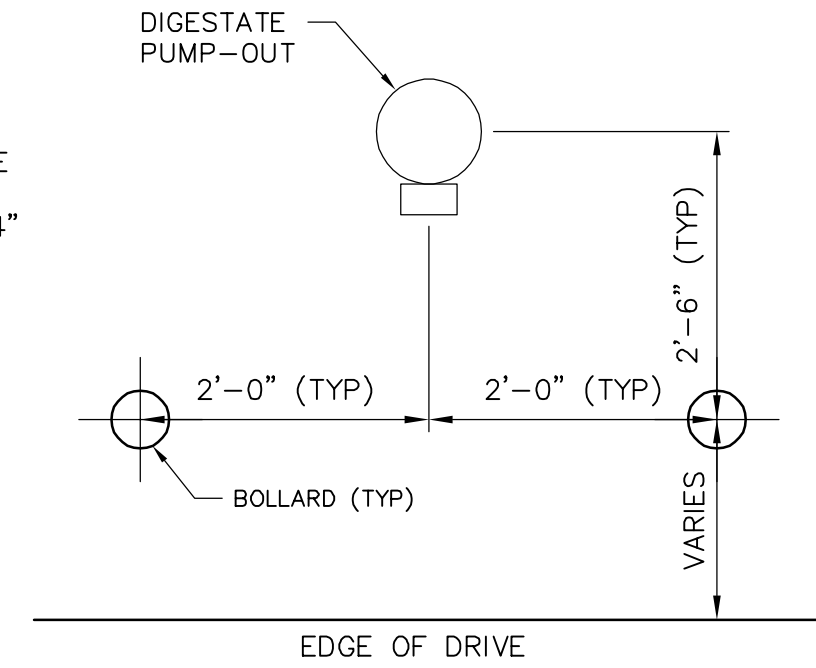
2 SINGLE CONDUIT TRENCH
N.T.S.



3 4" CONDUIT TRENCH & CROSSING DETAIL
N.T.S.



4 BOLLARD DETAIL
N.T.S.



ORIENTATION/LAYOUT FOR PUMP-OUT

- NOTES:
- BOLLARDS SHALL MEET THE REQUIREMENTS OF ASTM F2656, FS-30 OR APPROVED EQUAL.
 - FOR QUANTITY & ORIENTATION/LAYOUT OF BOLLARDS SEE PLANS.



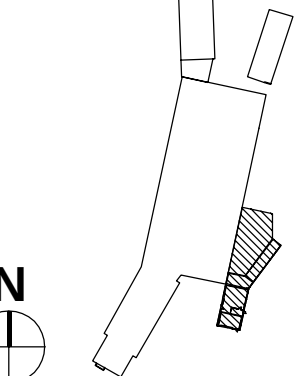
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KEY PLAN



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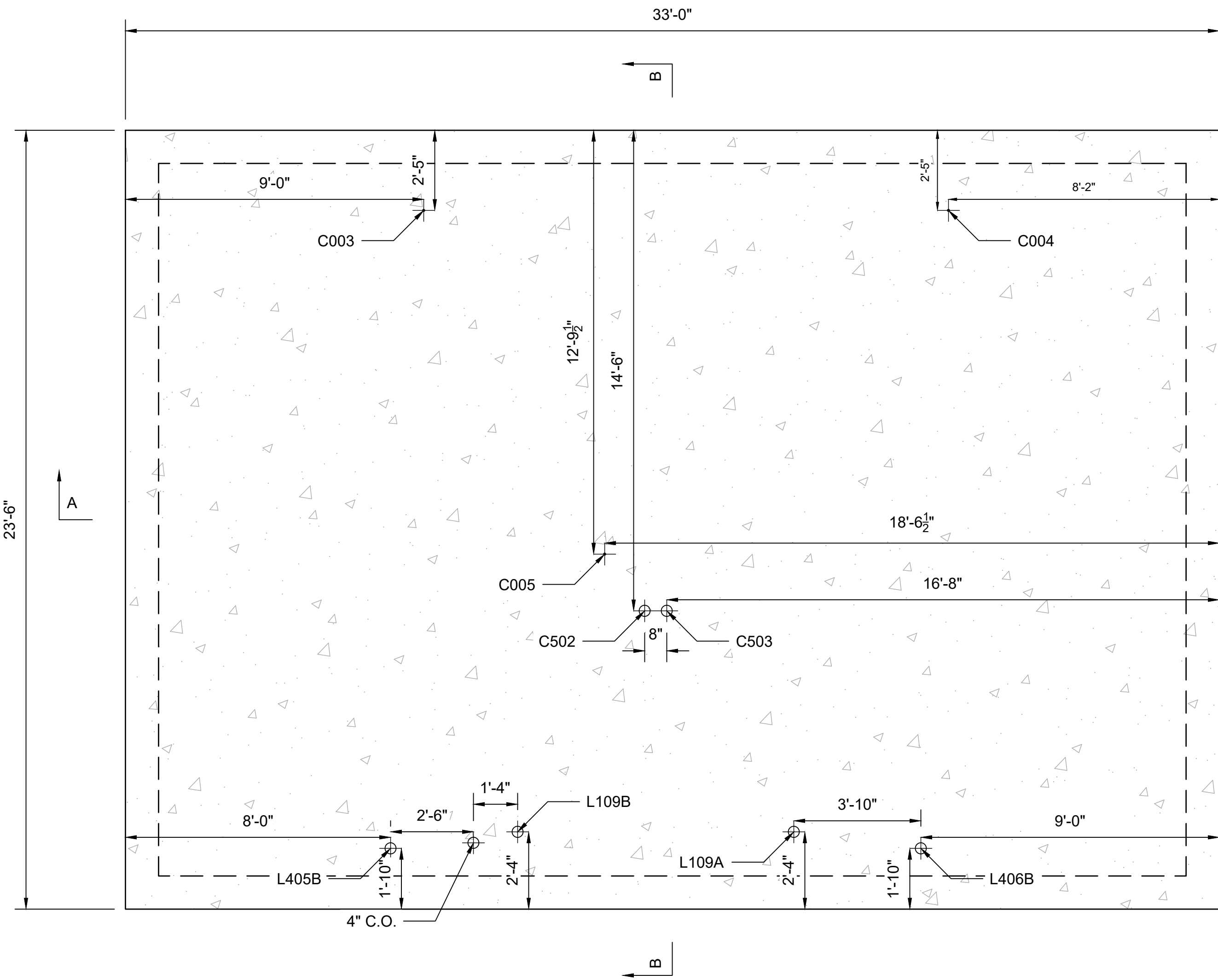
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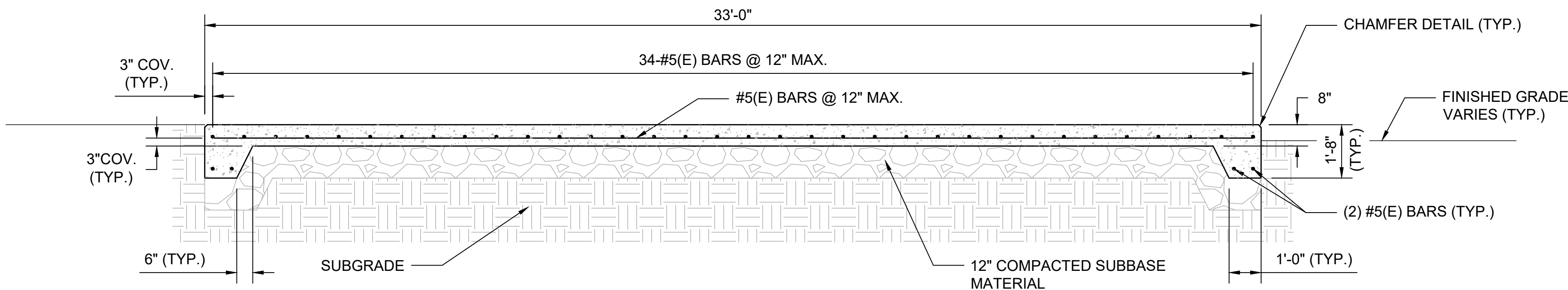
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IF BAR IS NOT ONE (1) INCH LONG, ADJUST SCALE ACCORDINGLY

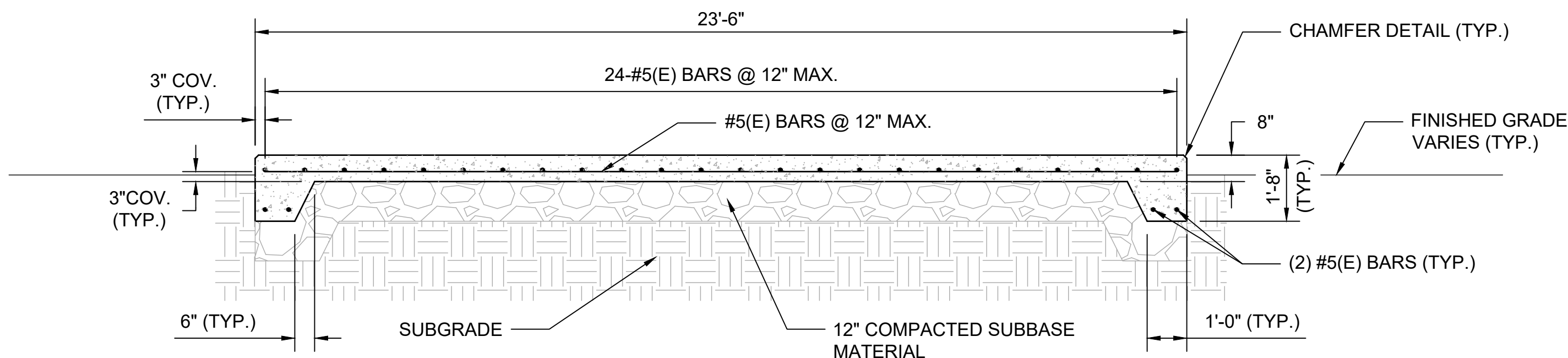
SITE DETAILS



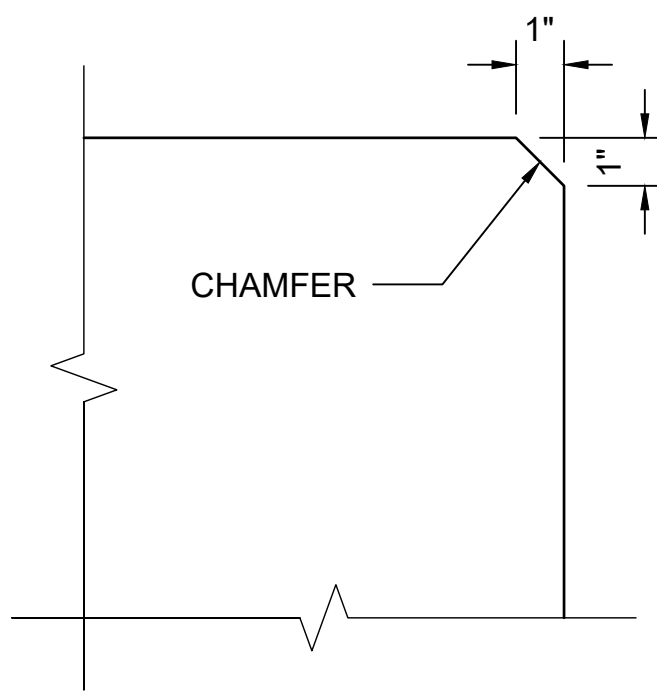
1 PLAN VIEW (SLAB-ON-GRADE 1)
3/8" = 1'-0"



2 SECTION A-A
3/8" = 1'-0"



3 SECTION B-B
3/8" = 1'-0"



4 CHAMFER DETAIL
3" = 1'-0"

GENERAL STRUCTURAL NOTES:

- ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE 2020 EDITION OF THE BUILDING CODE OF NEW YORK STATE.
- CONTRACTORS SHALL VERIFY ALL EXISTING CONDITIONS, DIMENSIONS, ELEVATIONS, ETC., IN FIELD AND NOTIFY THE ENGINEER OF RECORD OF ANY DISCREPANCIES PRIOR TO THE START OF CONSTRUCTION OR SHOP DRAWINGS.
- ALL MAJOR ISSUES/CONFLICTS SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER OF RECORD.
- ANY NECESSARY UTILITY RELOCATION REQUIRED FOR CONSTRUCTION SHALL BE COORDINATED WITH THE OWNER.
- THE CONTRACTOR SHALL BE HELD RESPONSIBLE FOR CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES AND SAFETY PROCEDURES. THE ENGINEER OF RECORD SHALL NOT BE RESPONSIBLE FOR THE ACTS OR OMISSIONS OF THE CONTRACTOR, SUBCONTRACTORS OR THEIR AGENTS OR EMPLOYEES OR ANY OTHER PERSONS PERFORMING ANY OF THE WORK.
- COORDINATE WORK OF ALL DISCIPLINES (ARCH., STRUCT., ELECT., ETC.) WITH EXISTING CONDITIONS, SPECIAL REQUIREMENTS, CONSTRUCTION SCHEDULE AND OTHER CONTRACTORS PERFORMING WORK AT THE SITE.
- IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO REPAIR ANY DAMAGE DONE TO EXISTING FEATURES AS A RESULT OF THIS WORK. DAMAGED ITEMS SHALL BE REPLACED IN KIND AT NO ADDITIONAL COST TO THE OWNER AND TO THE OWNERS SATISFACTION.
- SEE DRAWING C-103 FOR TOP OF SLAB ELEVATIONS.

SUBBASE NOTES:

- SLAB SUBBASE SHALL BE COMPACTED TO A MINIMUM OF 95 PERCENT THE MAXIMUM DRY DENSITY AS DETERMINED BY ASTM D1557-74 MODIFIED PROCTOR COMPACTION TEST.
- SEE PROJECT SPECIFICATIONS FOR FULL SCOPE OF REQUIREMENTS.

EXPANSION JOINT NOTES:

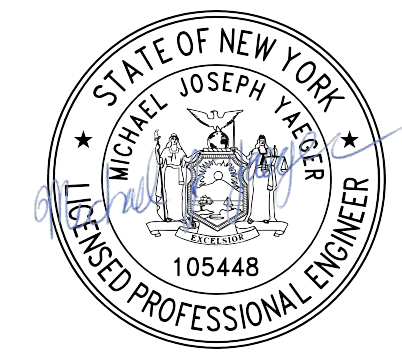
- PREFORMED EXPANSION JOINT FILLER SHALL CONFORM TO ASTM D1751.
- ELASTOMERIC JOINT FILLER SHALL BE SIKAFLEX-1C SL OR EQUAL AS APPROVED BY THE ENGINEER OF RECORD.
- SEE PROJECT SPECIFICATIONS FOR FULL SCOPE OF REQUIREMENTS.

CONCRETE NOTES:

- SUBMITTALS
 - SUBMIT A CONCRETE MIX DESIGN TO THE ENGINEER OF RECORD FOR REVIEW AND APPROVAL PRIOR TO CONSTRUCTION. THE MIX DESIGN SHALL INCLUDE MIX PROPORTIONS WITH SUPPORTING TEST DATA, MATERIAL CERTIFICATIONS AND PRODUCT DATA, TO DEMONSTRATE COMPLIANCE WITH THE REQUIREMENTS BELOW.
- COMPLY WITH THE LATEST EDITION OF THE FOLLOWING ACI STANDARDS:
 - ACI 318 (CODE)
 - ACI 306 (COLD WEATHER CONCRETING)
 - ACI 305 (HOT WEATHER CONCRETING)
 - ACE 211.1 (MIX PROPORTIONING)
 - ACI 304 (PLACING)
 - ACI 315 (DETAILING)
 - ACI 347 (FORMWORK)
 - ACI 201 (SPECIFICATIONS)
- MATERIALS
 - ALL REINFORCING STEEL SHALL BE ASTM A615, GRADE 60, DEFORMED BARS.
 - ALL REINFORCING STEEL SHALL BE EPOXY COATED.
 - PORTLAND CEMENT - ASTM C150, TYPE II.
 - AGGREGATES - ASTM C33.
 - AIR ENTRAINING ADMIXTURE - ASTM C260, CERTIFIED BY MANUFACTURER TO BE COMPATIBLE WITH OTHER REQUIRED ADMIXTURES.
 - PROHIBITED ADMIXTURES - CALCIUM CHLORIDE
 - THYOCYANATES OR ADMIXTURES CONTAINING MORE THAN 0.1% CHLORIDE IONS ARE NOT PERMITTED.
- PROPORTIONING AND DESIGN OF MIXES:
 - PREPARE DESIGN MIXES BY EITHER LABORATORY TRIAL BATCH OR FIELD EXPERIENCE METHODS AS SPECIFIED IN ACI 318.
 - MINIMUM COMPRESSIVE STRENGTH: 4,500 PSI
 - MAXIMUM AGGREGATE SIZE: 3/4"
 - MAXIMUM WATER TO CEMENT RATIO: 0.45
 - MAXIMUM SLUMP: 4" +/- 1"
 - AIR CONTENT RANGE: 6% +/- 1.5%
- CONCRETE SHALL BE READY MIXED PER ASTM C94. JOB SITE MIXING SHALL NOT BE PERMITTED.
- SEE PROJECT SPECIFICATIONS FOR FULL SCOPE OF REQUIREMENTS.

STRUCTURAL TESTS AND SPECIAL INSPECTIONS:

- PRIOR TO CONCRETE PLACEMENT, THE PLACEMENT OF THE STEEL REINFORCEMENT SHALL BE VERIFIED.
- PRIOR TO CONCRETE PLACEMENT, FABRICATE SPECIMENS FOR STRENGTH TESTS, PERFORM SLUMP AND AIR CONTENT TESTS, AND DETERMINE THE TEMPERATURE OF THE CONCRETE FOLLOWING ASTM C172, ASTM C31, AND ACI 318 SECTIONS 26.5 AND 26.12.
- SEE PROJECT SPECIFICATIONS FOR FULL SCOPE OF REQUIREMENTS.



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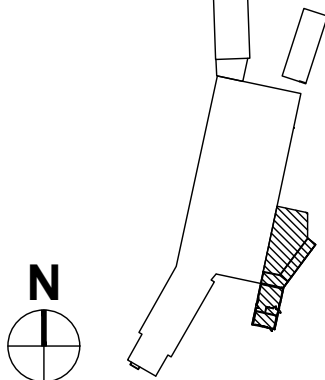
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CONSTRUCTION DOCUMENTS

TEACHING DAIRY BARN EXPERIMENTAL
ANAEROBIC DIGESTER ENABLING

CORNELL UNIVERSITY
ITHACA, NY 14850

KEY PLAN



DATE:	10/24/2025
PROJECT #:	19640.08
DRAWN BY:	DM
CHECKED BY:	MJY
SCALE:	AS NOTED

VERIFY SCALE

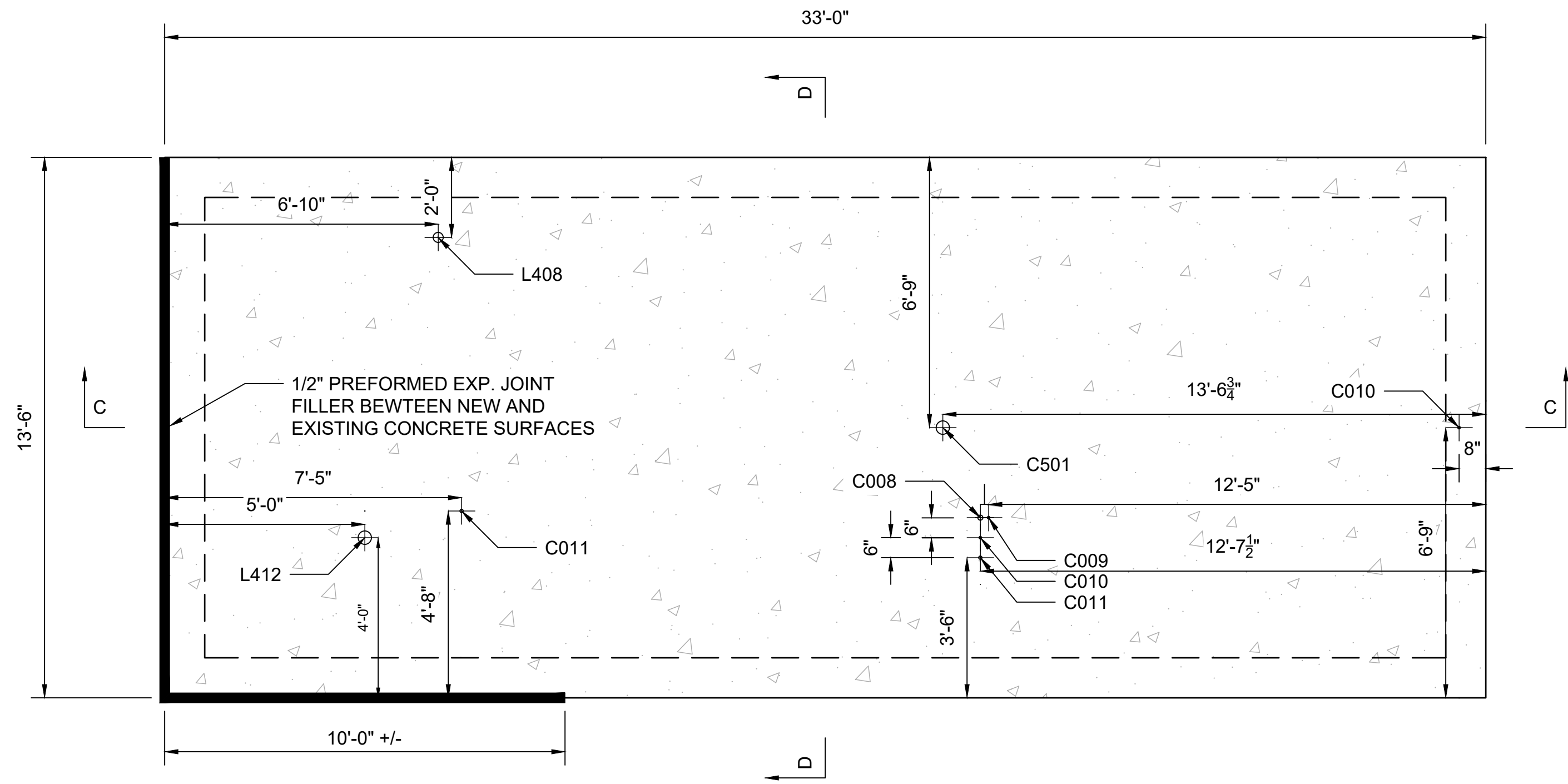
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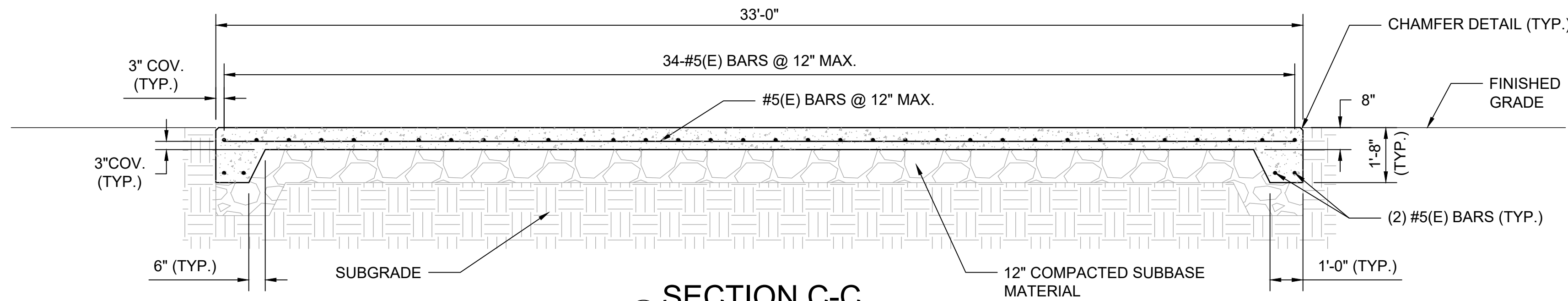
IF BAR IS NOT ONE (1) INCH LONG, ADJUST SCALE ACCORDINGLY

SLAB-ON-GRADE 1
DETAILS AND NOTES

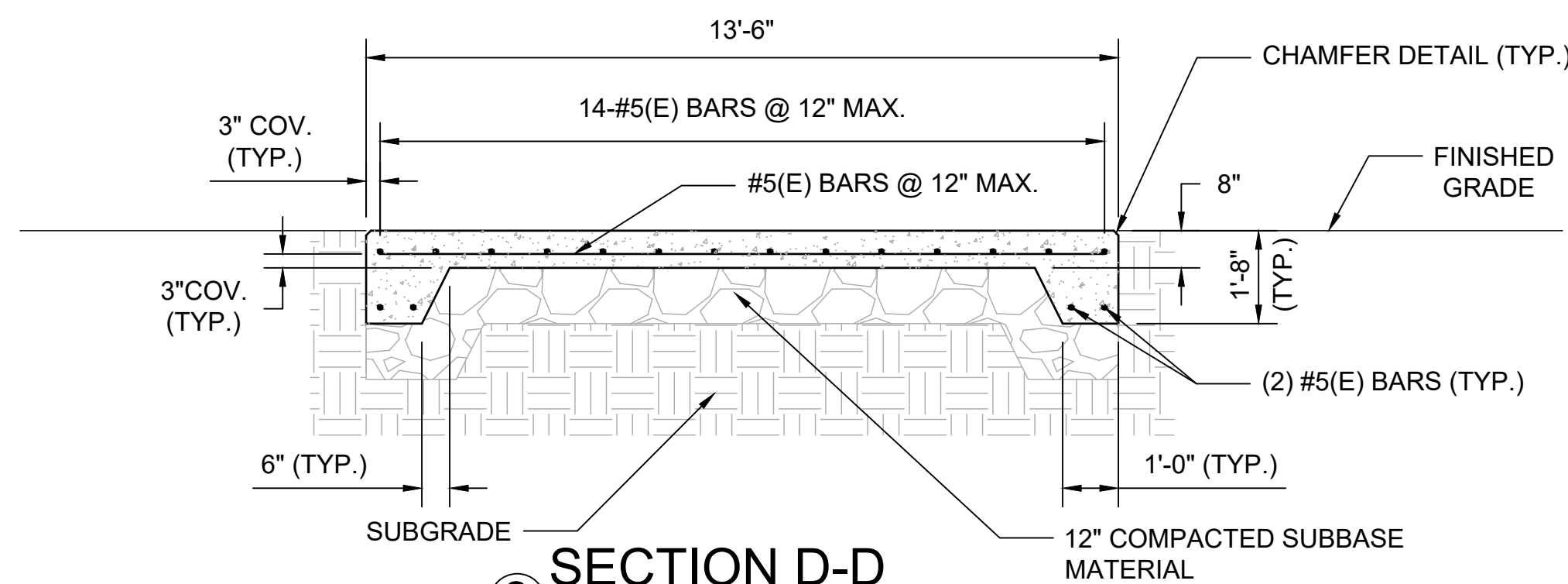
S-101



1 PLAN VIEW (SLAB-ON-GRADE 2)
3/8" = 1'-0"



2 SECTION C-C
3/8" = 1'-0"



3 SECTION D-D
3/8" = 1'-0"

NOTES:

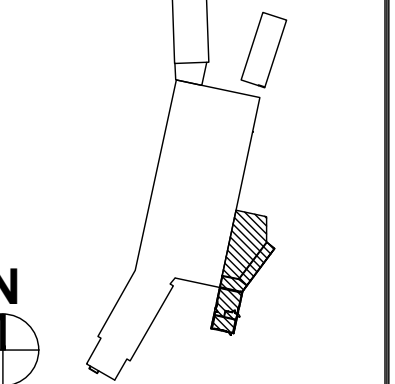
- SEE DRAWING S-101 FOR GENERAL STRUCTURAL NOTES
- SEE DRAWING S-101 FOR SUBBASE NOTES
- SEE DRAWING S-101 FOR EXPANSION JOINT NOTES
- SEE DRAWING S-101 FOR CONCRETE NOTES
- SEE DRAWING S-101 FOR STRUCTURAL TESTS AND SPECIAL INSPECTIONS
- SEE DRAWING S-101 FOR CHAMFER DETAIL

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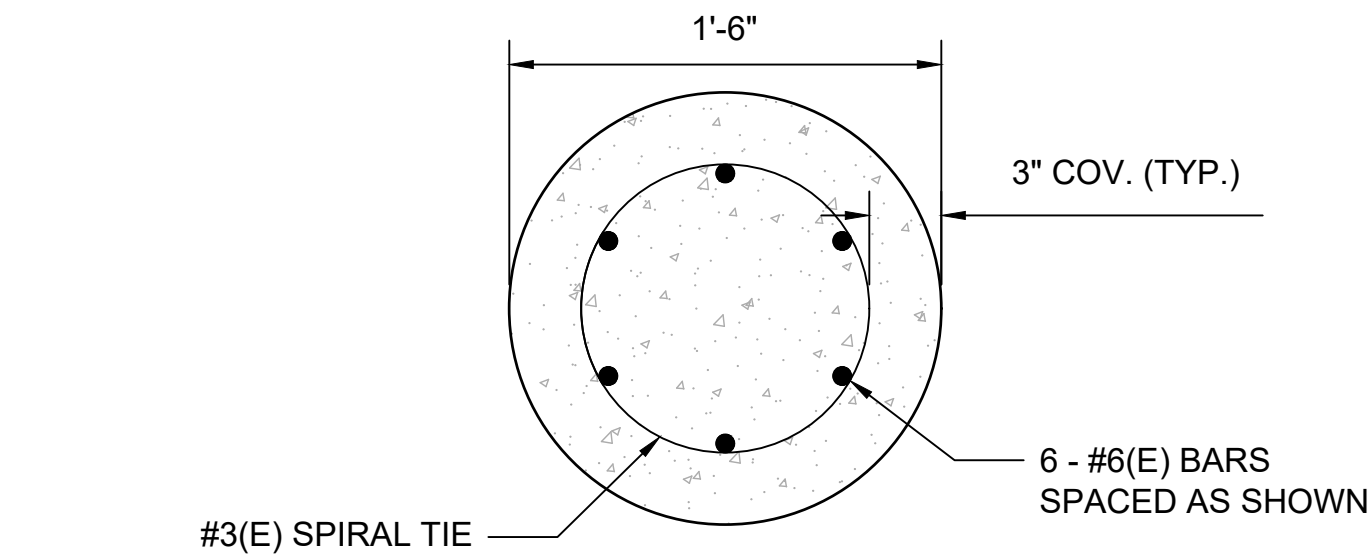
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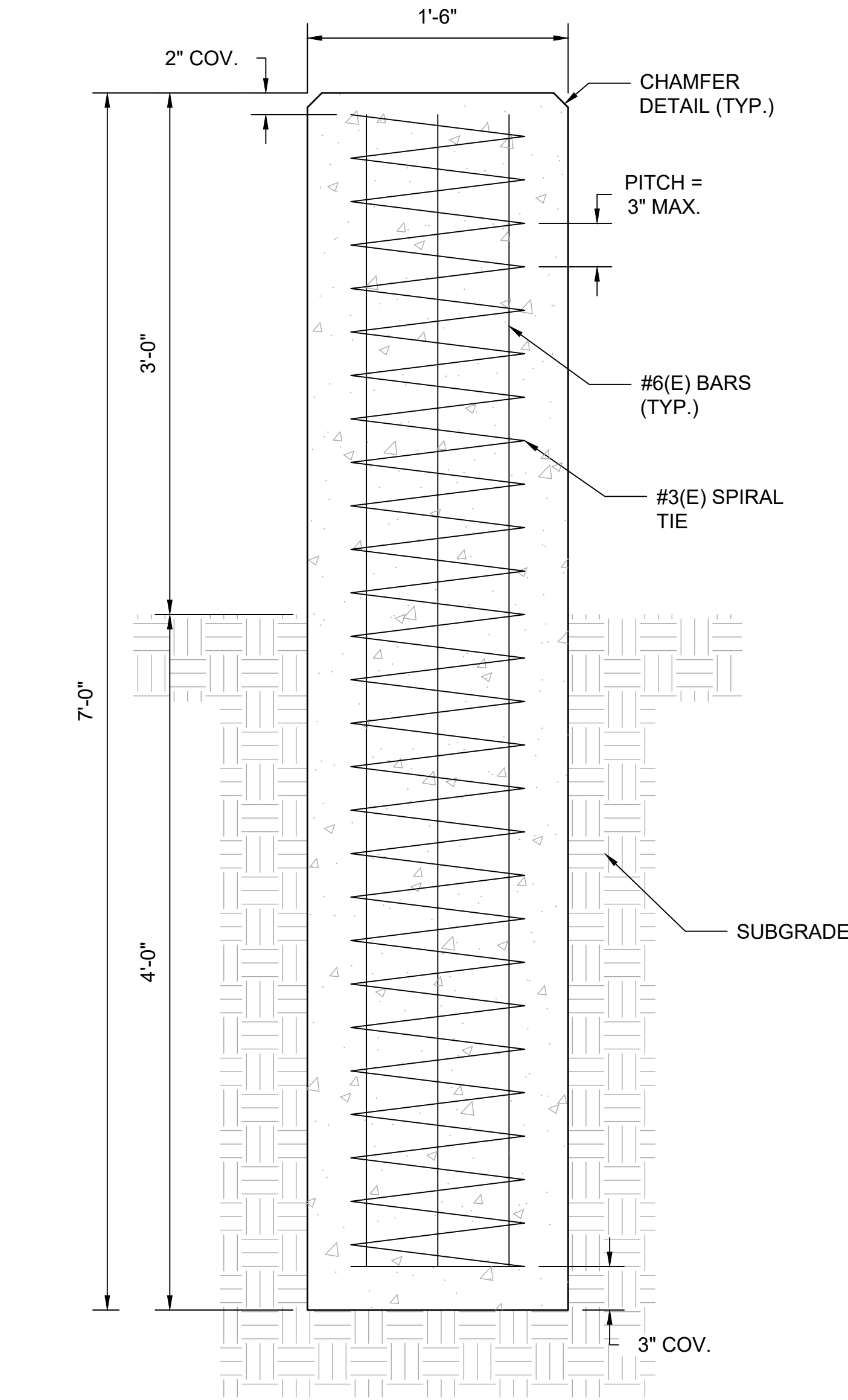
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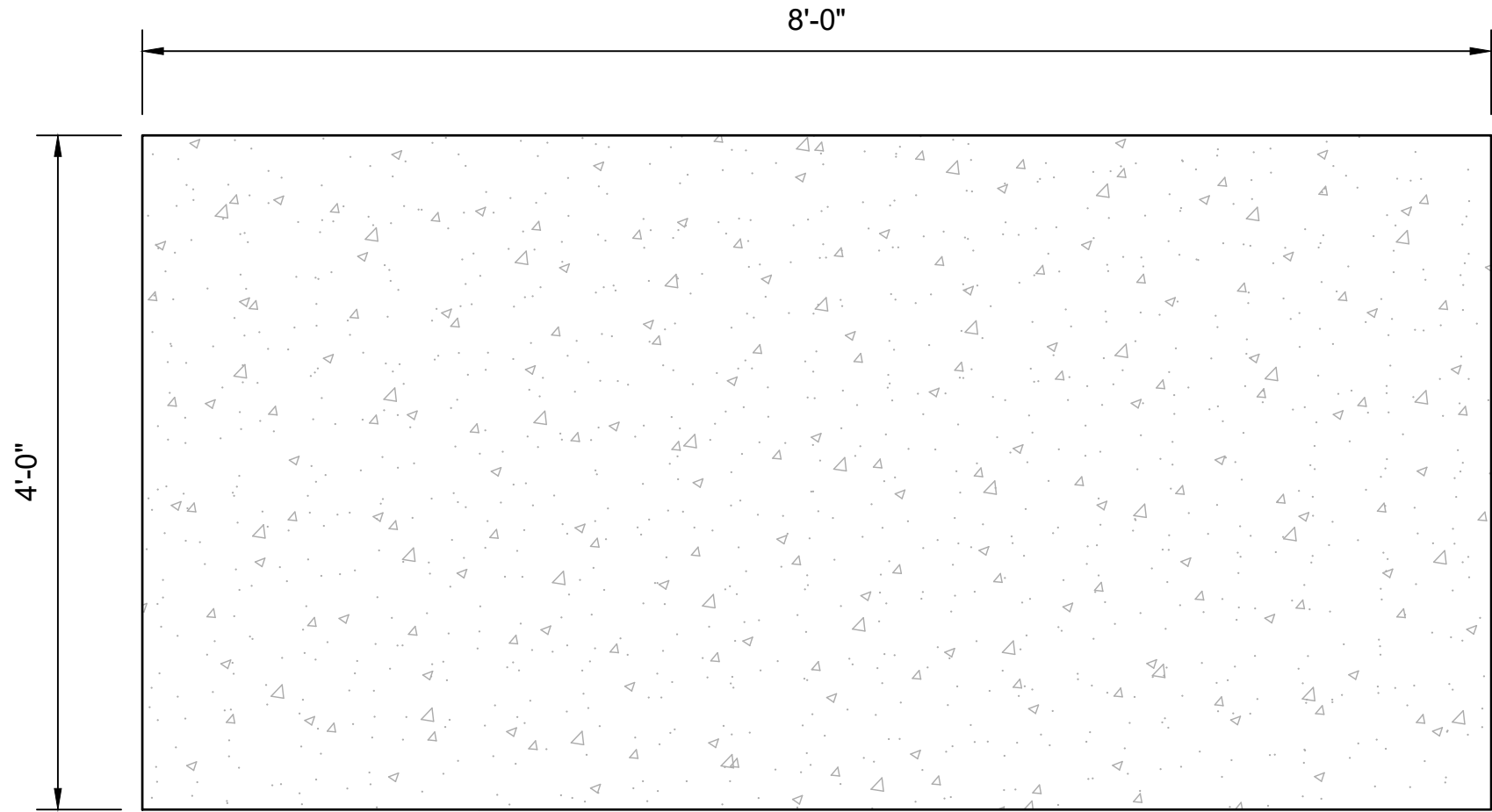
SLAB-ON-GRADE 2
DETAILS AND NOTES



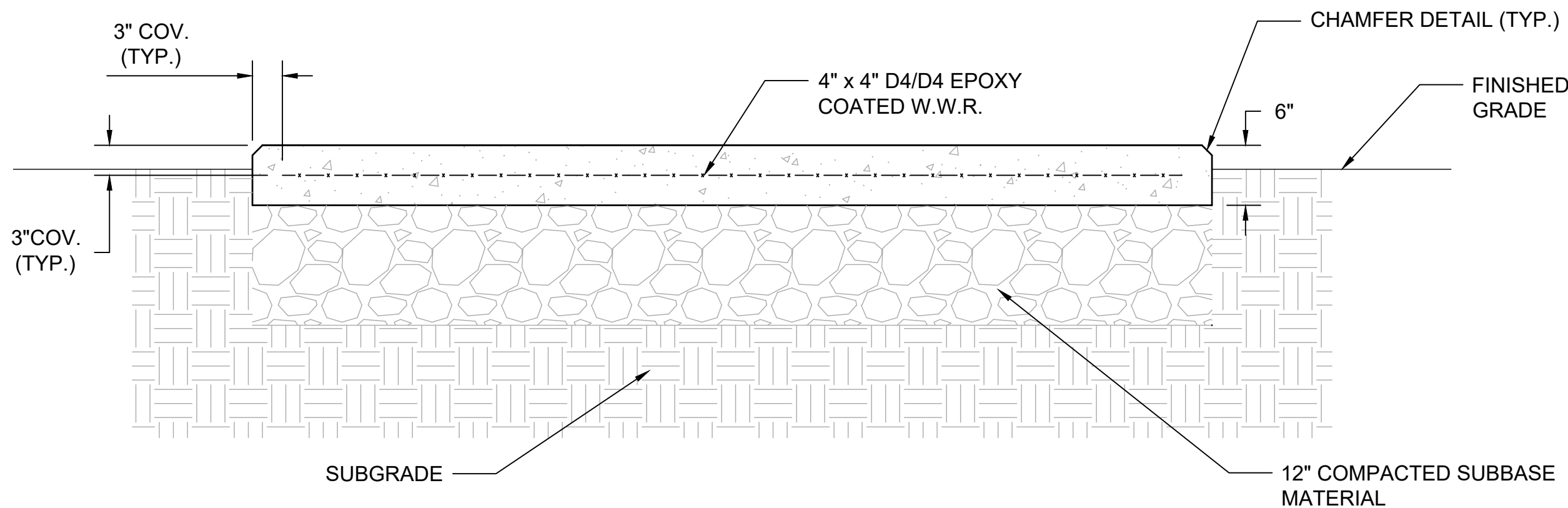
1 FLARE STACK FOUNDATION PLAN
1-1/2" = 1'-0"



2 FLARE STACK FOUNDATION ELEVATION
1-1/2" = 1'-0"



3 PLAN VIEW (SLAB-ON-GRADE 3)
1" = 1'-0"

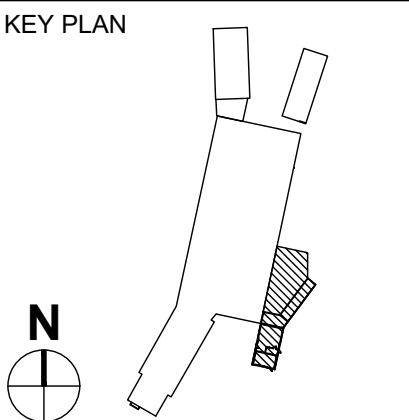


4 TYPICAL SECTION (SLAB-ON-GRADE 3)
1" = 1'-0"

NOTES:

- SEE DRAWING S-101 FOR GENERAL STRUCTURAL NOTES
- SEE DRAWING S-101 FOR SUBBASE NOTES
- SEE DRAWING S-101 FOR CONCRETE NOTES
- SEE DRAWING S-101 FOR STRUCTURAL TESTS AND SPECIAL INSPECTIONS
- SEE DRAWING S-101 FOR CHAMFER DETAIL

REVISIONS		
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VERIFY SCALE

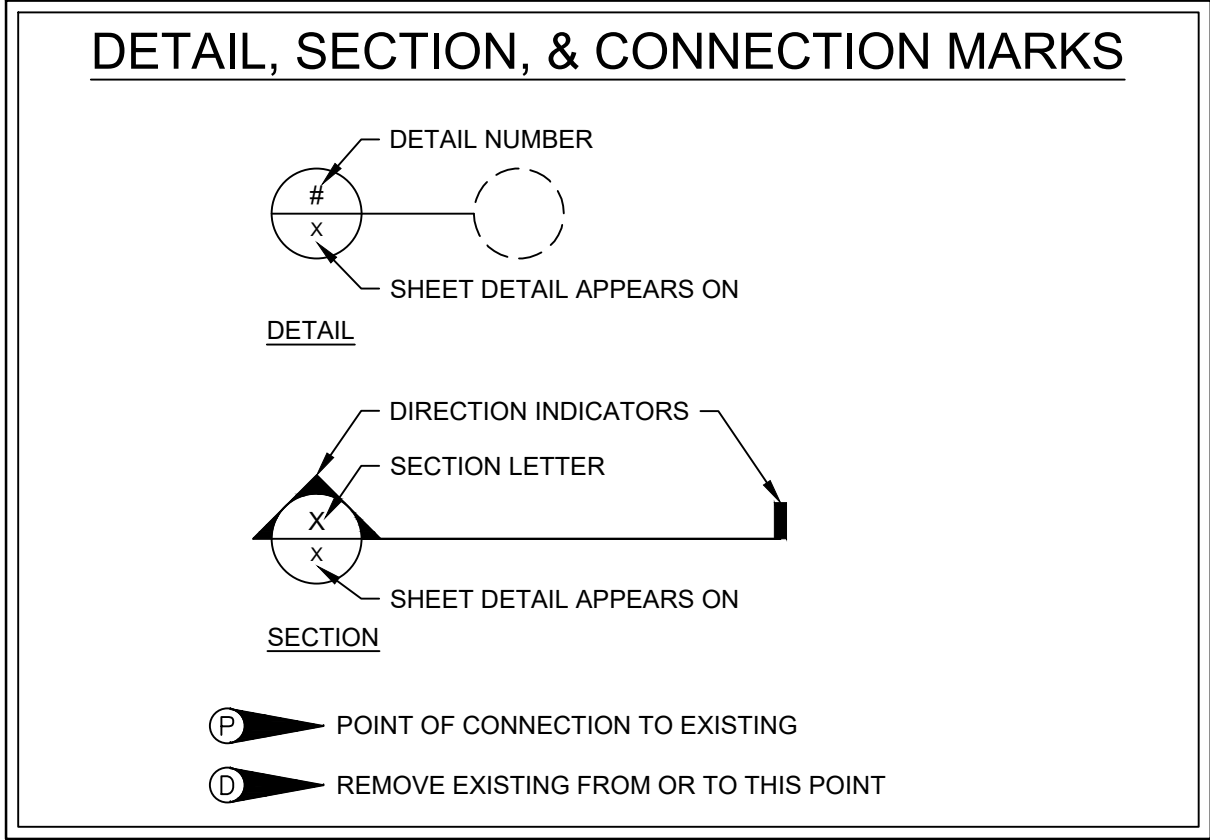
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ON ORIGINAL DRAWING:

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IF BAR IS NOT ONE (1) INCH LONG,
ADJUST SCALE ACCORDINGLY

SLAB-ON-GRADE 3
AND
FLARE STACK
DETAILS AND NOTES

PIPING SYMBOL LEGEND			
SINGLE LINE		DOUBLE LINE	
	GATE VALVE		UNION
	GLOBE VALVE		FLANGED CONNECTION
	PRESSURE REGULATING VALVE		VENTURI FLOW METER
	BUTTERFLY VALVE		PIPE CAP
	BALL VALVE		SOLENOID VALVE
	CHECK VALVE		AQUASTAT
	BACKFLOW PREVENTER		NON-FREEZE WALL HYDRANT
	PLUG VALVE		PITCH OF PIPE, RISE (R), DROP (D)
	GAS COCK		EXPANSION JOINT
	BALANCING VALVE		EXPANSION LOOP
	COMBINATION BALANCING VALVE		TRIPLE DUTY VALVE
	PRESSURE RELIEF VALVE		SUPERVISORY VALVE
	HOSE END DRAIN (HED)		W/TAMPER SWITCH
	STRAINER		METER
	STRAINER WITH BLOWDOWN VALVE		PRESSURE TAP
	2-WAY VALVE (ATC)		FLEXIBLE PIPE CONNECTION
	3-WAY VALVE (ATC)		WALL CLEANOUT
	MIXING VALVE		WALL HYDRANT
	P&T TEST PORT (PETE'S PLUG)		DIRECTION OF FLOW
	FLOW SWITCH		CIRCULATING PUMP
	PRESSURE SWITCH		VENT THROUGH ROOF (VTR)
	LISTED INDICATING VALVE WITH TAMPER SWITCH		HOT, COLD, & SAN. PIPE DN
	VARIABLE SPEED DRIVE		HOT, COLD & VENT PIPE UP
	WATER HAMMER ARRESTER		ROOF DRAIN
	THERMOMETER		FLOOR DRAIN
	THERMOMETER, WELL ONLY		FLOOR DRAIN WITH TRAP PRIMER LINE
	PRESSURE GAUGE		FLOOR SINK
	FLOW METER FITTING		FLOOR CLEAN OUT
	AUTOMATIC AIR VENT		PIPE BREAK
	MANUAL AIR VENT		HASHMARK FOR PIPE BELOW SLAB
	PIPE GUIDE		DEMO (DASHED-HEAVY LINE)
	PIPE ANCHOR		EXISTING (LIGHT SOLID LINE)
	PIPE DROP		COMPRESSED AIR
	PIPE UP		COLD WATER
	PIPE CONNECTION, TOP		HOT WATER
	PIPE CONNECTION, BOTTOM		HOT WATER RECIRCULATE
	CONCENTRIC INCREASER/DECREASER		GAS
	ECCENTRIC INCREASER/DECREASER		NON-POTABLE WATER
			REVERSE OSMOSIS RECIRCULATE
			REVERSE OSMOSIS SUPPLY
			SANITARY
			STORM DRAIN
			STORM DRAIN OVERFLOW
			VACUUM LINE
			VENT
			GLYCOL HEATING WATER SUPPLY
			GLYCOL HEATING WATER RETURN



ABBREVIATIONS			
AB	ABOVE	ID	INSIDE DIAMETER
AD	ACCESS DOOR OR AREA DRAIN	IN WC	INCHES WATER COLUMN
ADP	APPARATUS DEW POINT	INV	INVERT
AFF	ABOVE FINISHED FLOOR	IN WG	INCHES WATER GAGE
AFG	ABOVE FINISHED GRADE	IW	INDIRECT WASTE
AFUE	ANNUAL FUEL UTILIZATION EFFICIENCY	JS	JANITORS SINK
AGA	AMERICAN GAS ASSOCIATION	KW	KILOWATT
AHJ	AUTHORITY HAVING JURISDICTION	KWH	KILOWATT HOUR
AHU	AIR HANDLING UNIT	LxWxD	LENGTH x WIDTH x DEPTH
AMB	AMBIENT	LAT	LEAVING AIR TEMPERATURE
AMP	AMPERES	L	LAVATORY
ANSI	AMERICAN NATIONAL STANDARDS INSTITUTE	LAV	LAVATORY
APD	AIR PRESSURE DROP	LF	LINEAR FEET
ASHRAE	AMERICAN SOCIETY OF HEATING REFRIGERATING AND AIR-CONDITIONING ENGINEERS	LD	LINEAR DIFFUSER
ASPE	AMERICAN SOCIETY OF PLUMBING ENGINEERS	LBS	POUNDS
AST	ABOVE GROUND STORAGE TANK	LRA	LOCKED ROTOR AMPERES
ATC	AUTOMATIC TEMPERATURE CONTROL	LWT	LEAVING WATER TEMPERATURE
ATCC	AUTOMATIC TEMPERATURE CONTROLS CONTRACTOR	M/A	MIXED AIR
AVG	AVERAGE	MAX	MAXIMUM
AWG	AMERICAN WIRE GAGE	MBH	1,000 BTUH
AWT	AVERAGE WATER TEMPERATURE	MMBH	1,000,000 BTUH
AWWA	AMERICAN WATER WORKS ASSOCIATION	MC	MECHANICAL CONTRACTOR
BAS	BUILDING AUTOMATION SYSTEM	MD	MOTORIZED DAMPER
BD	BALANCING DAMPER	MFR	MANUFACTURER
BF	BLIND FLANGE	MIN	MINIMUM
BS	BIRDSCREEN	MOD	MOTOR OPERATED DAMPER
BDD	BACKDRAFT DAMPER	MR	MOP RECEPTOR
BTU	BRITISH THERMAL UNIT	MTD	MOUNTED
BTUH	BRITISH THERMAL UNITS PER HOUR	N/A	NOT APPLICABLE
BHP	BRAKE HORSEPOWER	NC	NORMALLY CLOSED
CA	COMMISSIONING AGENT OR AUTHORITY	NIC	NOT IN CONTRACT
CO	CEILING CLEANOUT	NG	NATURAL GAS
COO	CUBIC FEET PER MINUTE	NO	NORMALLY OPEN
CFM	CUBIC FEET PER MINUTE	NP	NON-POTABLE
CI	CAST IRON	NTS	NOT TO SCALE
CLG	CEILING	O/A	OUTSIDE AIR
CONN	CONNECTION	OD	OUTSIDE DIAMETER OR OVERFLOW DRAIN
CONT	CONTINUATION	OED	OPEN END DUCT
CONV	CONVECTOR	OZ	OUNCE
COP	COEFFICIENT OF PERFORMANCE	P	PUMP
CU FT	CUBIC FEET	PC	PLUMBING CONTRACTOR
CU IN	CUBIC INCH	PD	PRESSURE DROP
CW	COLD WATER	PH	PHASE
°C	DEGREES CELSIUS	PPM	PARTS PER MILLION
°F	DEGREES FAHRENHEIT	PRV	PRESSURE REDUCING VALVE
Ø	DIAMETER	PSI	POUNDS PER SQUARE INCH
Ø	DRYER, APPLIANCE	PSIG	POUNDS PER SQUARE INCH GAUGE
DB	DRY BULB	PT	PRESSURE/TEMPERATURE TEST PORT
DBP	DOMESTIC BOOSTER PUMP	PVC	POLYVINYLCHLORIDE
DF	DRINKING FOUNTAIN	R/A	RETURN AIR
DHRP	DOMESTIC HOT WATER RETURN PUMP	RD	ROOF DRAIN
DIR	DIRECT	REQD	REQUIRED
DN	DOWN	RH	RELATIVE HUMIDITY
DP	DOMESTIC PUMP	RLA	RUNNING LOAD AMPS
DR	DRAIN	RPM	REVOLUTIONS PER MINUTE
DWG	DRAWING	RX	REMOVE EXISTING
DX	DIRECT EXPANSION	S	SINK
EX	EXISTING	S/A	SUPPLY AIR
E/A	EXHAUST AIR	SATC	SUSPENDED ACOUSTICAL TILE CEILING
EAT	ENTERING AIR TEMPERATURE	SF	SQUARE FEET
EC	ELECTRICAL CONTRACTOR	SFD	SMOKE/FIRE DAMPER
EER	ENERGY EFFICIENCY RATIO	SH	SHOWER
EFF	EFFICIENCY	SI	SOLIDS INTERCEPTOR
ELEV	ELEVATION	SMACNA	SHEET METAL AND AIR CONDITIONING CONTRACTORS' NATIONAL ASSOCIATION
ESP	EXTERNAL STATIC PRESSURE	SP	STATIC PRESSURE
ETR	EXISTING TO REMAIN	T	TEMPERATURE
EWC	ELECTRIC WATER COOLER	TBR	TO BE REMOVED
EVH	ELECTRIC WATER HEATER	TCC	TEMPERATURE CONTROL CONTRACTOR
EWT	ENTERING WATER TEMPERATURE	TD	TRENCH DRAIN
EXT. F&B	EXTERNAL FACE & BYPASS	THA	TOTAL HEAT ADDED
EXP	EXPANSION	TP	TEST PORT
FA	FREE AREA	TSP	TOTAL STATIC PRESSURE
FAS	FIRE ALARM SYSTEM	TSTAT	THERMOSTAT
FC	FLEXIBLE CONNECTION	TT	TEMPERATURE TRANSMITTER
FD	FLOOR DRAIN OR FIRE DAMPER	TYP	TYPICAL
FLA	FULL LOAD AMPERES	UNO	UNLESS NOTED OTHERWISE
FLR	FLOOR	UST	UNDERGROUND STORAGE TANK
FMS	FACILITY MANAGEMENT SYSTEM	UR	URINAL
FOS	FUEL OIL SUPPLY	V	VENT
FOR	FUEL OIL RETURN	VAV	VARIABLE AIR VOLUME
FPC	FIRE PROTECTION CONTRACTOR	VBF	VENT BELOW FLOOR
FPI	FINS PER INCH	VTR	VENT THROUGH ROOF
FFM	FEET PER MINUTE	W	WASHER, APPLIANCE OR WASTE
FPS	FIRE PROTECTION SYSTEM	WB	WET BULB
FS	FLOOR SINK	WC	WATER CLOSET
FT	FEET OR FOOT	WMS	WIRE MESH SCREEN
FT LB	FOOT POUND	WPD	WATER PRESSURE DROP
GA	GAUGE		
GAL	GALLONS		
GALV	GALVANIZED		
GC	GENERAL CONTRACTOR		
GI	GREASE INTERCEPTOR		
GPH	GALLONS PER HOUR		
GPM	GALLONS PER MINUTE		
GPD	GRILLES, REGISTERS, & DIFFUSERS		
GW	GAS WATER HEATER		
H	HUMIDITY		
HC	HEATING CONTRACTOR		
HD	HEAD		
HGT	HEIGHT		
HP	HORSEPOWER		
HR	HOUR(S)		
HUM	HUMIDIFIER		
HW	HOT WATER		
HZ	HERTZ		

NOTE: NOT ALL SYMBOLS AND ABBREVIATIONS MAY BE USED.

- ### GENERAL NOTES:
- CONTRACTORS ARE URGED TO INSPECT THE SITE BEFORE SUBMITTING A BID PROPOSAL TO ENSURE KNOWLEDGE OF PROJECT REQUIREMENTS AND SITE CONDITIONS. IF NO CLARIFICATION IS REQUESTED, IT WILL BE CONSIDERED THAT THE CONTRACTORS ARE IN FULL UNDERSTANDING OF PROJECT REQUIREMENTS.
 - PROVIDE LABOR, SUPERVISION, EQUIPMENT, MATERIALS, AND SERVICES REQUIRED FOR THE COMPLETE INSTALLATION OF THIS WORK IN ACCORDANCE WITH APPLICABLE FEDERAL, STATE, AND LOCAL CODES, AUTHORITIES HAVING JURISDICTION, AND STANDARDS INCLUDING BUT NOT LIMITED TO, ASHRAE, IBC, NEC, AND NFPA.
 - NOTHING CONTAINED IN THE SPECIFICATIONS OR SHOWN ON THE DRAWINGS SHALL BE CONSTRUED TO BE IN CONFLICT WITH ANY STATE OR LOCAL CODES, ORDINANCES OR REGULATIONS.
 - THE USE OF THE WORD "PROVIDE" SHALL MEAN TO FURNISH, INSTALL AND CONNECT, READY TO USE.
 - THE USE OF THE WORD "FURNISH" SHALL MEAN TO PROCURE AND DELIVER TO THE SITE.
 - THE USE OF THE WORD "INSTALL" SHALL MEAN TO PHYSICALLY PLACE INTO SERVICE AND CONNECT, READY TO USE.
 - EQUIPMENT AND MATERIALS SHALL BE INSTALLED BY SKILLED TRADESMEN, FAMILIAR WITH THE COMPONENTS TO BE INSTALLED, AND IN ACCORDANCE WITH BEST PRACTICES OF THE INDUSTRY.
 - BECAUSE OF THE SMALL SCALE OF THE DRAWINGS, IT IS NOT POSSIBLE TO INDICATE ALL OFFSETS, FITTINGS, AND ACCESSORIES THAT MAY BE REQUIRED. THIS CONTRACTOR SHALL CAREFULLY EXAMINE THE ARCHITECTURAL, STRUCTURAL, HEATING, VENTILATING AND AIR-CONDITIONING, ELECTRICAL, PLUMBING, AND OTHER PROJECT DOCUMENTS AS MAY BE NECESSARY FOR PROPER OPERATION OR INSTALLATION AND SHALL PROVIDE OFFSETS, FITTINGS, AND ACCESSORIES TO MEET PROJECT CONDITIONS.
 - DISCREPANCIES BETWEEN DRAWINGS OR BETWEEN DRAWINGS AND SPECIFICATIONS SHALL BE REPORTED TO PROFESSIONAL IN WRITING. OBTAIN WRITTEN INSTRUCTIONS FROM PROFESSIONAL AS TO THE MANNER IN WHICH TO PROCEED. NO DEPARTURES FROM THE PROJECT DOCUMENTS SHALL BE MADE WITHOUT PRIOR WRITTEN ACCEPTANCE BY THE PROFESSIONAL.
 - DIMENSIONS, CLEARANCES, AND LOCATIONS OF EQUIPMENT AND MATERIALS SHALL BE FIELD VERIFIED PRIOR TO ORDERING, PROCURING AND FURNISHING SAME.
 - NO EXTRA COMPENSATION OR CHARGES WILL BE ACCEPTED DUE TO DIFFERENCES BETWEEN THE ACTUAL MEASUREMENTS AND THOSE INDICATED ON THE PLAN. THOROUGHLY COORDINATE WORK WITH SITE CONDITIONS AND OTHER TRADES. DETERMINE EXACT ROUTE AND LOCATION OF EACH DUCT, PIPE, CONDUIT, ETC. BEFORE FABRICATION AND INSTALLATION.
 - INSTALL WORK SUBSTANTIALLY AS INDICATED. VERIFY LOCATIONS AND ELEVATIONS ON JOB SITE; DO NOT DIRECTLY SCALE DRAWINGS. MAKE NECESSARY CHANGES IN ELEVATION, FITTINGS, OR OFFSETS TO ACCOMMODATE OBSTACLES OR INTERFERENCES.
 - CONTRACTOR SHALL ASSUME FULL RESPONSIBILITY FOR DAMAGE TO THE BUILDING, PIPING OR EQUIPMENT THAT IS THE RESULT OF WORK FOR INSTALLATION OF THIS CONTRACT.
 - THE INSTALLING CONTRACTOR IS RESPONSIBLE FOR PATCH AND REPAIR OF ALL SURFACES TO MATCH EXISTING MATERIALS AND ADJACENT FINISHES ASSOCIATED WITH INSTALLATION/REMOVAL OF THIS WORK UNLESS SPECIFICALLY NOTED OTHERWISE.
 - WORK SHALL BE COMPLETED TO MAINTAIN ALL NECESSARY AND REQUIRED CLEARANCES, ACCESSES, AND OPENINGS, SUCH THAT FULL FUNCTIONALITY, PROPER OPERATION, AND REPAIR AND MAINTENANCE ARE ENSURED.
 - WHERE DEVICE HEIGHT OF 48" OCCURS AT POINT OF CHANGE OF FINISH, THE DEVICE SHALL BE RAISED OR LOWERED TO OCCUR IN ONE FINISH.
 - WHERE DEVICE OCCURS IN BRICK, TILE, OR BLOCK WALLS, THEY SHALL BE MOUNTED AT A VERTICAL MASONRY JOINT & IN EITHER THE TOP OR BOTTOM HORIZONTAL JOINT, CLOSEST TO THE MOUNTING HEIGHT.
 - UNLESS OTHERWISE NOTED, ALL MOUNTING HEIGHT DIMENSIONS LISTED ARE TO THE CENTER LINE OF THE WALL BOX OR DEVICE.
 - NOT ALL ABBREVIATIONS & SYMBOLS MAY APPLY TO THIS PROJECT.
 - ALL ELECTRICAL MATERIALS, DEVICES, APPLIANCES, AND EQUIPMENT SHALL BE LABELED AND LISTED BY A CERTIFIED TESTING LABORATORY OR AGENCY.
 - DRAWINGS REPRESENT THE SCOPE OF WORK IN GENERAL ARRANGEMENT FORM AND ARE INTENDED TO SHOW GENERAL ROUTING AND REQUIRED SIZES/CAPACITIES OF SYSTEM COMPONENTS.

- ### MECHANICAL NOTES
- ANY PHYSICAL INSTALLATION MODIFICATIONS DUE TO FIELD CONDITIONS SHALL BE RESOLVED BY THE MECHANICAL CONTRACTOR IN ACCORDANCE WITH THE RECOMMENDATIONS OF THE MECHANICAL ENGINEER.
 - THIS CONTRACTOR SHALL PROVIDE ALL MISCELLANEOUS STEEL AND SUPPORTS TO SUSPEND DUCTWORK AND EQUIPMENT.
 - ALL EQUIPMENT SHALL BE INSTALLED WITH VIBRATION ISOLATORS.
 - THIS CONTRACTOR SHALL PROVIDE ALL LABOR, MATERIALS, AND EQUIPMENT TO ENSURE A COMPLETE SYSTEM.
 - THIS CONTRACTOR SHALL COORDINATE HIS WORK WITH ALL OTHER TRADES.
 - THE MECHANICAL CONTRACTOR SHALL SEAL ALL HIS RESPECTIVE WALL AND ROOF PENETRATIONS.
 - THE MECHANICAL CONTRACTOR SHALL PAY FOR ALL FEES AND PERMITS AS NECESSARY TO COMPLETE THE INSTALLATION.
 - THE MECHANICAL CONTRACTOR SHALL PROVIDE MANUAL AIR VENTS AT ALL HIGH POINTS IN HYDRONIC SYSTEMS AND AT EACH UNIT TO FACILITATE MANUAL VENTING. PROVIDE 3/4" HOSE END DRAINS, (WITH CAP & CHAIN), AT ALL LOW POINTS TO FACILITATE DRAINAGE.
 - ALL REFRIGERATION PIPING SHALL BE INSTALLED IN STRICT ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS AND RECOMMENDATIONS. ALL PIPE SIZES SHALL BE PER MANUFACTURER'S REQUIREMENTS BASED ON PROPOSED PIPE ROUTING AND EQUIPMENT LOCATIONS.
 - ALL REFRIGERANT PIPING SHALL BE PITCHED A MINIMUM OF 1/2" IN 10'-0" IN THE DIRECTION OF THE REFRIGERANT FLOW.
 - ALL UNDERGROUND OR CONCEALED REFRIGERATION LINES SHALL BE INSULATED WITH 1" FOAMGLAS INSULATION BY PITTSBURG-CORNING WITH PITTSBURG PROTECTIVE COVERING AND INSTALLED IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS.
 - ALL PIPE PENETRATIONS THROUGH CHASES, WALLS, OR FLOORS WHICH ARE FIRE-RATED SHALL BE PROPERLY SEALED TO MAINTAIN RATING.
 - ALL DUCTS THAT PENETRATE CHASES, WALLS, OR FLOORS WHICH ARE FIRE-RATED SHALL BE INSTALLED WITH FIRE DAMPERS IN ACCORDANCE WITH NFPA 90A. THIS APPLIES EVEN IF THEY ARE NOT SPECIFICALLY SHOWN ON THE DRAWINGS.
 - COORDINATION DRAWINGS AT NOT LESS THAN A 1/4" PER FOOT. SHOWING THE PROPOSED EQUIPMENT ARE REQUIRED FOR ALL AREAS AND SHALL BE REVIEWED BY ALL TRADES PRIOR TO SUBMISSION TO THE PROFESSIONAL.
 - ALL DUCTWORK, EQUIPMENT, PIPING, ETC. SHALL BE INSTALLED ABOVE THE FINISHED CEILING UNLESS SPECIFICALLY NOTED OTHERWISE.
 - WHERE INSTRUCTED TO REMOVE EXISTING AIR DEVICES AND REPLACE UNDER NEW WORK, THIS CONTRACTOR SHALL PHYSICALLY MEASURE THE EXACT DIMENSIONAL REQUIREMENTS OF EACH DEVICE PRIOR TO PROCUREMENT. REFER TO NEW WORK DRAWINGS FOR NOMINAL SIZES AND DETAILS.

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CONSTRUCTION DOCUMENTS
TEACHING DAIRY BARN EXPERIMENTAL ANAEROBIC DIGESTER ENABLING
CORNELL UNIVERSITY
ITHACA, NY 14850

KEY PLAN

DATE: 10/24/2025
PROJECT #: 19640.08
DRAWN BY: ADK
CHECKED BY: BFW
SCALE: NONE

VERIFY SCALE

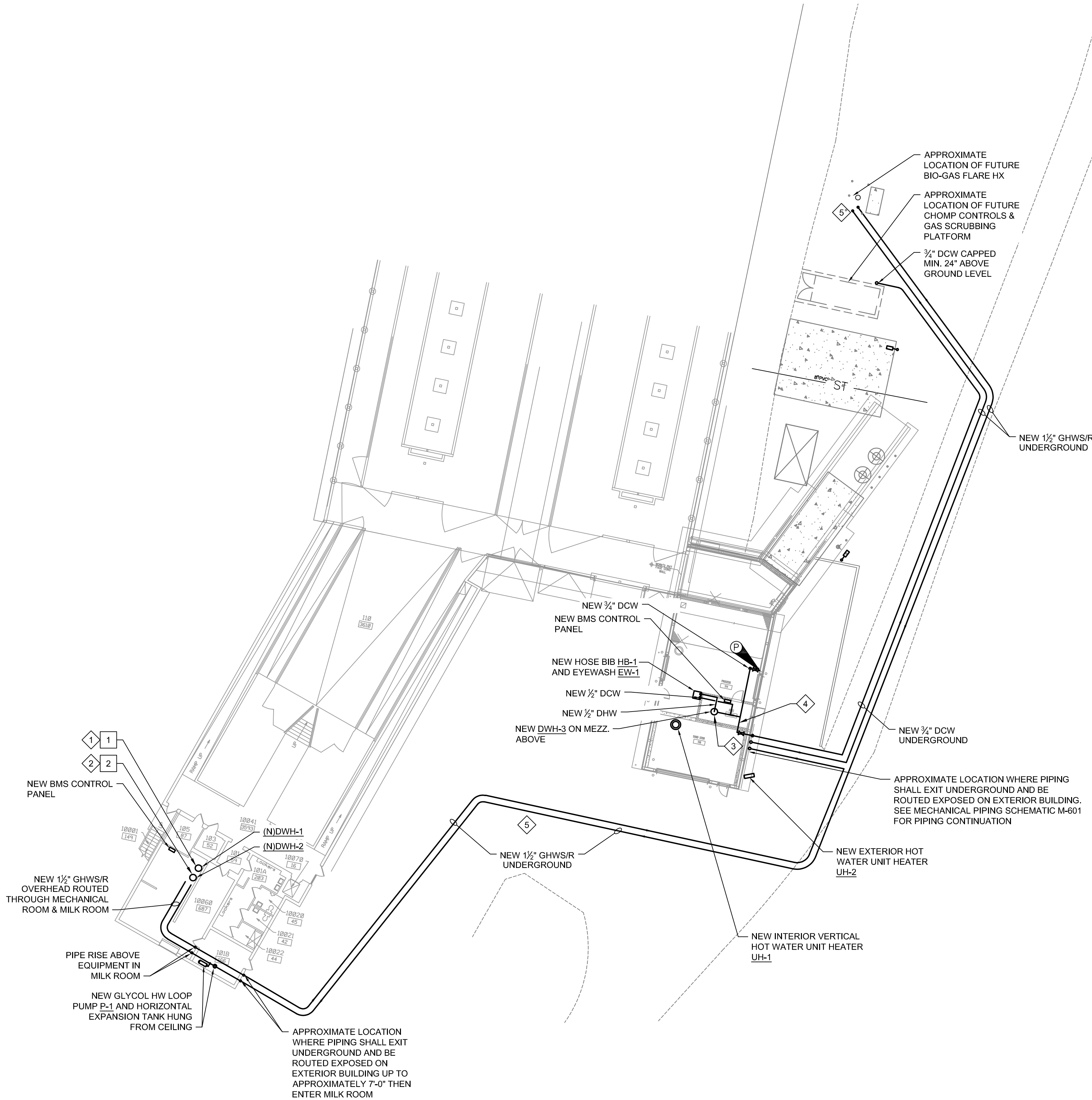
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0 1

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MECHANICAL SYMBOLS, ABBREVIATIONS, & GENERAL NOTES

M-000



1 MECHANICAL SITE PLAN
SCALE: 1"=20'-0"

DEMO NOTES: #

1. DEMOLISH AND REMOVE EXISTING GAS-FIRED DOMESTIC HOT WATER HEATER AND PREP WATER CONNECTIONS FOR RECONNECTION TO NEW, CAP NATURAL GAS AND VENT.
2. DEMOLISH AND REMOVE EXISTING GAS-FIRED DOMESTIC HOT WATER HEATER AND PREP WATER CONNECTIONS, NATURAL GAS, AND VENT FOR RECONNECTION TO NEW, ACCESSORIES AND TRIM TO REMAIN AND BE RECONNECTED.

KEYED NOTES: #

1. PROVIDE NEW DWH-1 ON EXISTING PAD, RECONNECT DOMESTIC COLD WATER INLET AND DOMESTIC HOT WATER OUTLET IN THE SAME CONFIGURATION.
2. PROVIDE NEW DWH-2 ON EXISTING PAD, RECONNECT DOMESTIC HOT WATER INLET, DOMESTIC HOT WATER OUTLET, AND NATURAL GAS INLET IN THE SAME CONFIGURATION.
3. PROVIDE NEW DWH-3 ON MEZZANINE ABOVE MANURE SEPARATION CONTROL ROOM. PROVIDE SHEET METAL DRAIN/LEAK PAN AND SPOT DETECTOR WITH LOCAL ALARM.
4. PROVIDE NEW ASSE 1015 DOUBLE CHECK BACKFLOW PREVENTER.
5. PROVIDE NEW 1 3/4" GLYCOL HEATING-HOT-WATER SUPPLY AND RETURN (GHWS/R) PIPING UNDERGROUND AS INDICATED. STUB UP MIN. 12" ABOVE GROUND WITHIN 3' OF FUTURE BIO-GAS FLARE HEAT EXCHANGER LOCATION AND CAP FOR FUTURE USE. PRE-INSULATED BURIED PIPING SHALL BE A DELEGATED DESIGN TO THE MANUFACTURER. MANUFACTURER SHALL SUPPLY ALL THERMAL EXPANSION CALCULATIONS AND REQUIRED ANCHORING.

GENERAL NOTES:

- G1. SEE MECHANICAL PIPING SCHEMATIC M-601 FOR PIPING CONTINUATION AND CONNECTIONS.
- G2. ALL ABOVE GROUND, INDOOR AND OUTDOOR DOMESTIC WATER PIPING TO BE INSULATED AND PVC JACKETED WITH HEAT TRACED PER SPECIFICATION 220719.
- G3. COORDINATE ALL SHUTDOWNS WITH OWNER.



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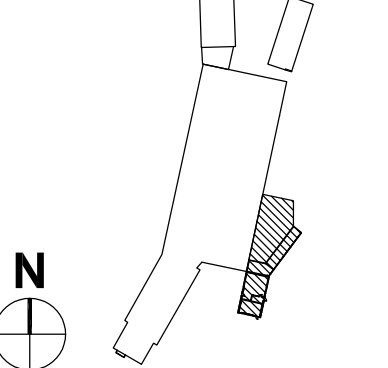
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ITHACA, NY 14850

KEY PLAN



DATE:	10/24/2025
PROJECT #:	19640.08
DRAWN BY:	ADK
CHECKED BY:	BFW
SCALE:	AS NOTED

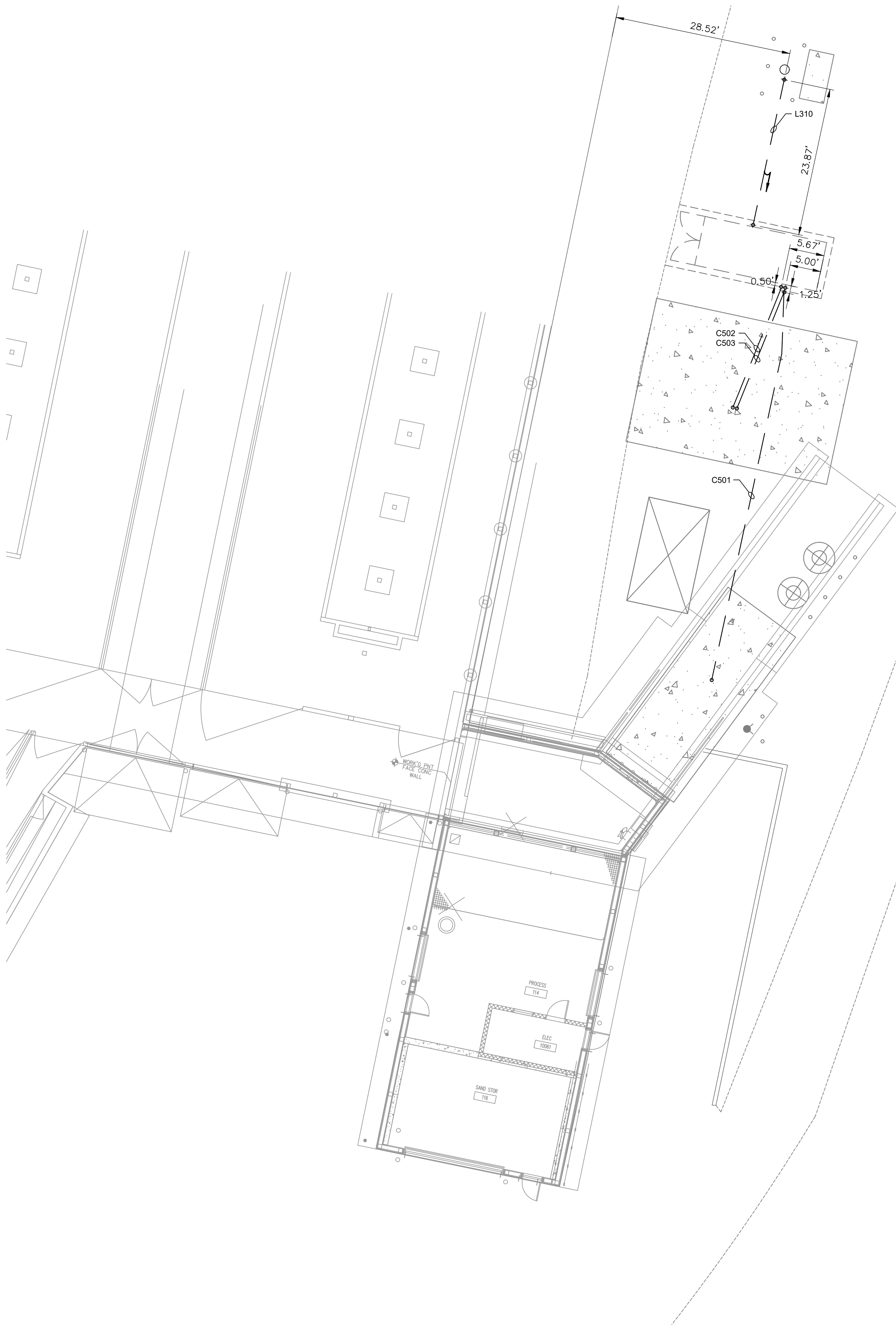
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MECHANICAL
SITE PLAN



1 MECHANICAL SITE PLAN
SCALE: 1"=10'-0"

UNDERGROUND MECHANICAL PROCESS PIPING SCHEDULE								
PIPE ID	SCHEDULE & MATERIAL	NOMINAL SIZE	INSULATION	FUTURE CONTENTS	BURIAL DEPTH	STUB-UP HEIGHT	SLOPE	DIRECTION
L310	HDPE FLEX TUBING	1-1/4"	-	BIO-GAS	SEE C-104	24"	2%	TO CONTAINER
C501	SCH. 40 PVC	4"	1"	(4) 1/2" PEX-A; GLYCOL HW	SEE C-104	24"	-	-
C502	SCH. 40 PVC	4"	1"	(4) 1/2" PEX-A; GLYCOL HW	SEE C-104	24"	-	-
C503	SCH. 40 PVC	4"	1"	(4) 1/2" PEX-A; GLYCOL HW	SEE C-104	24"	-	-

GENERAL NOTES:

- G1. PROVIDE UNDERGROUND PIPING PER SCHEDULE ABOVE. STUB UP MIN. 24" ABOVE GROUND AND CAP FOR FUTURE USE.
- G2. SEE STRUCTURAL DRAWING S-101 AND S-102 FOR EXACT STUB UP LOCATIONS/DIMENSIONS IN CONCRETE PADS.
- G3. SEE SUPPLEMENTAL INFORMATION FOR FUTURE CONTAINER DRAWING



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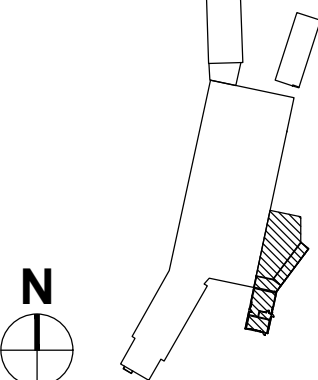
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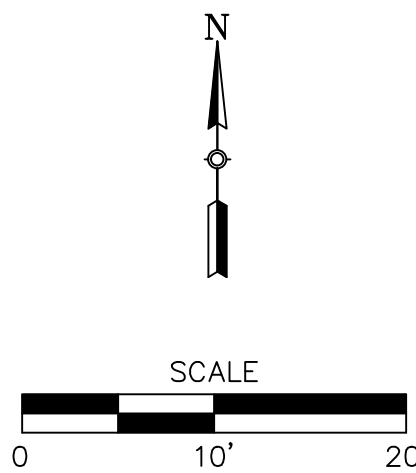
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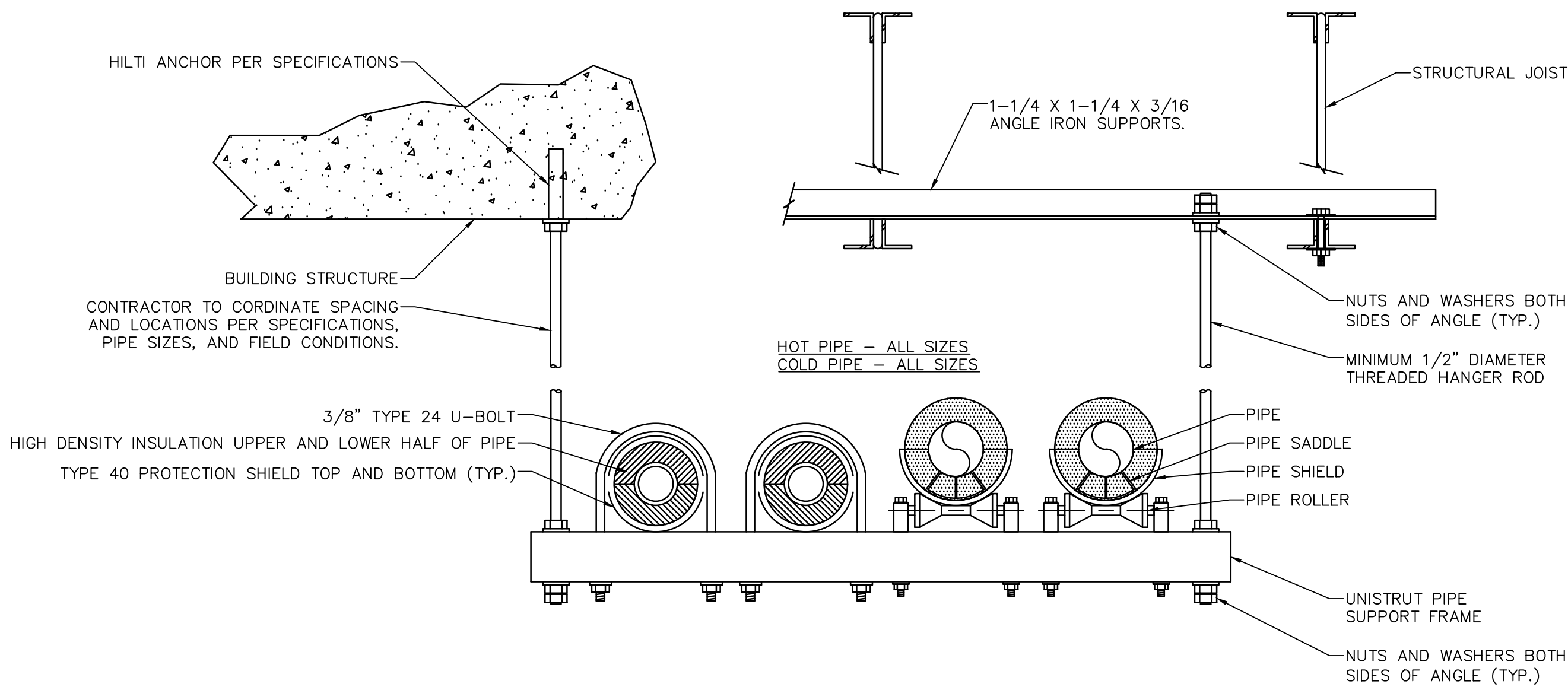
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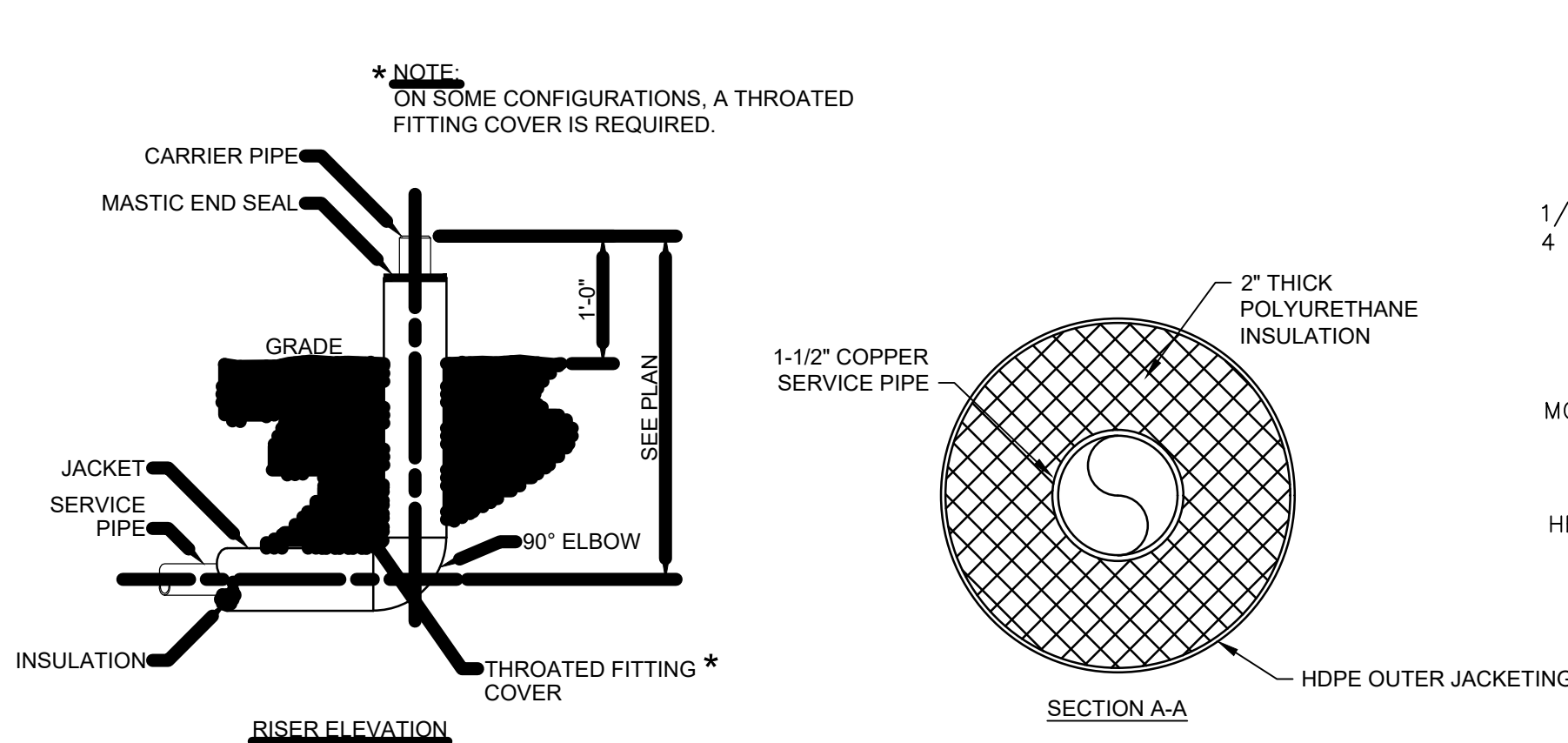
MECHANICAL
PROCESS PIPING
PLAN

M-102

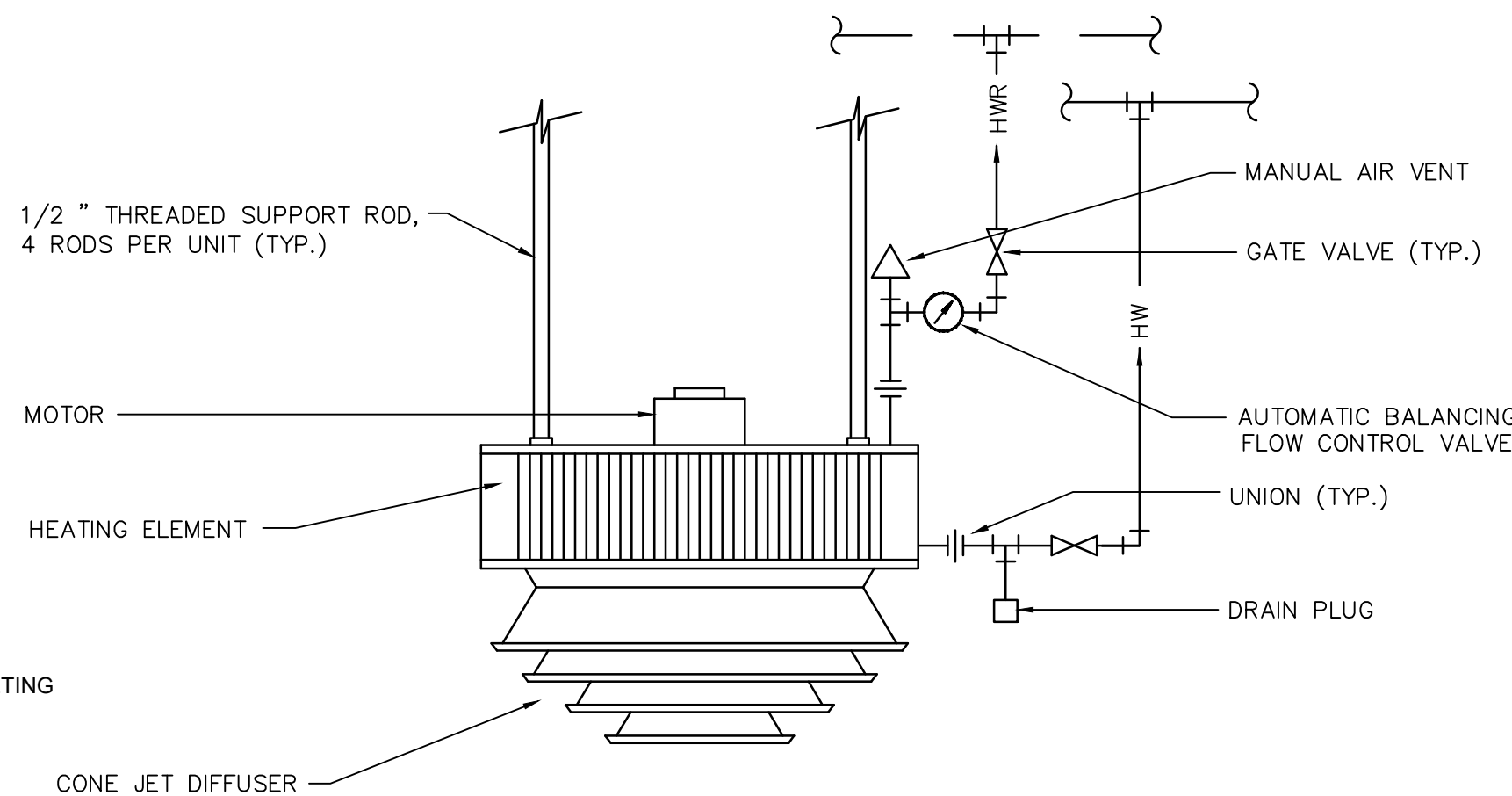




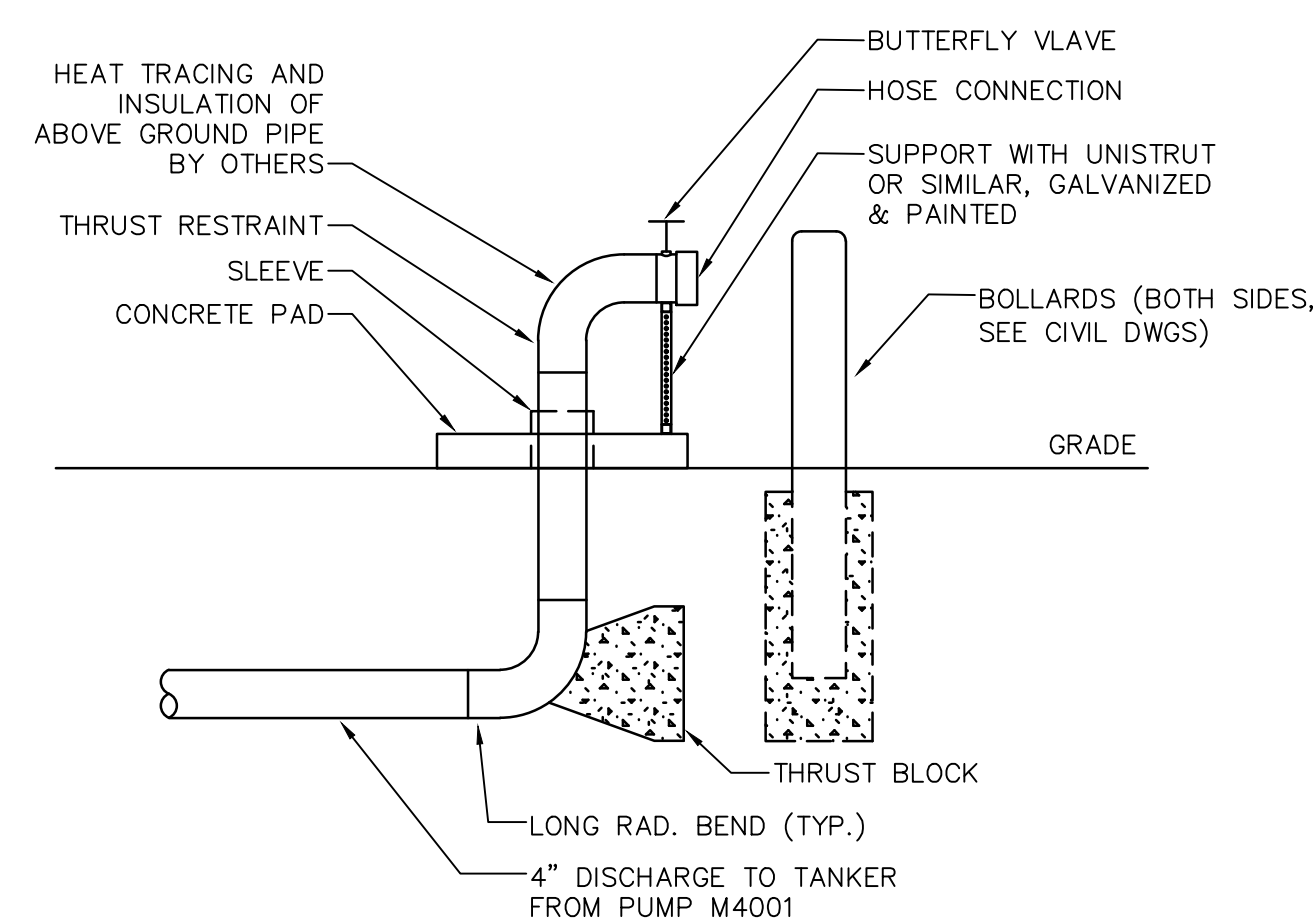
1 TRAPEZE PIPE SUPPORT DETAIL FOR MULTIPLE PIPING SYSTEMS
SCALE: NONE



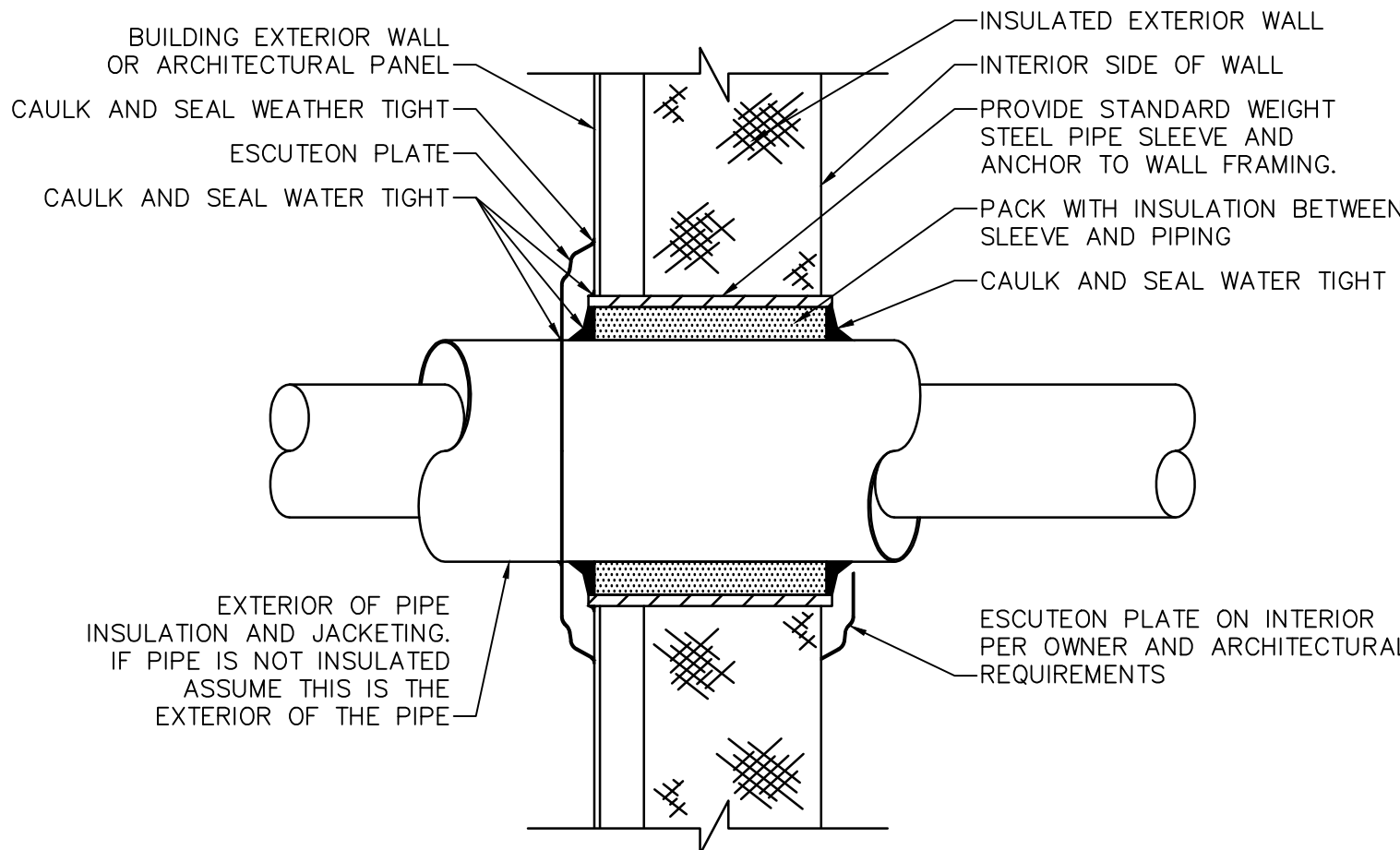
2 UNDERGROUND PRE-INSULATED PIPE DETAIL
SCALE: NONE



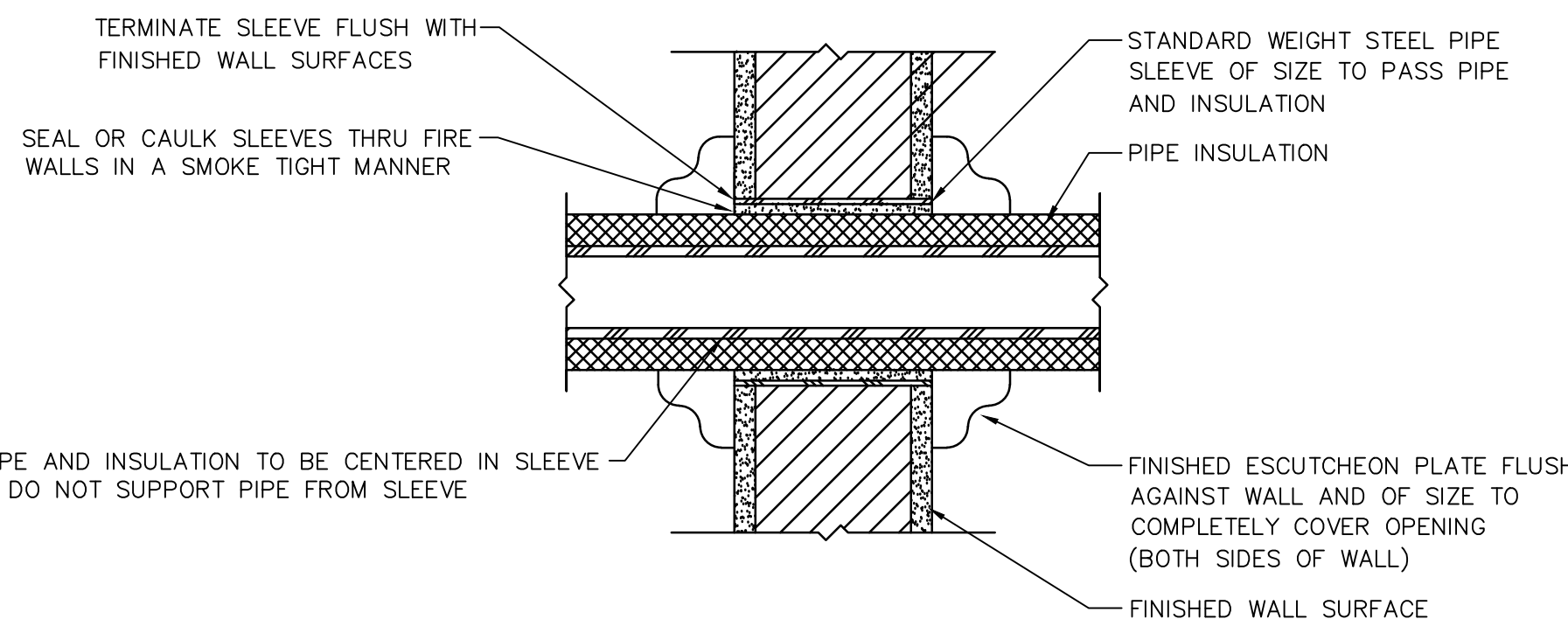
3 VERTICAL UNIT HEATER DETAIL
SCALE: NONE



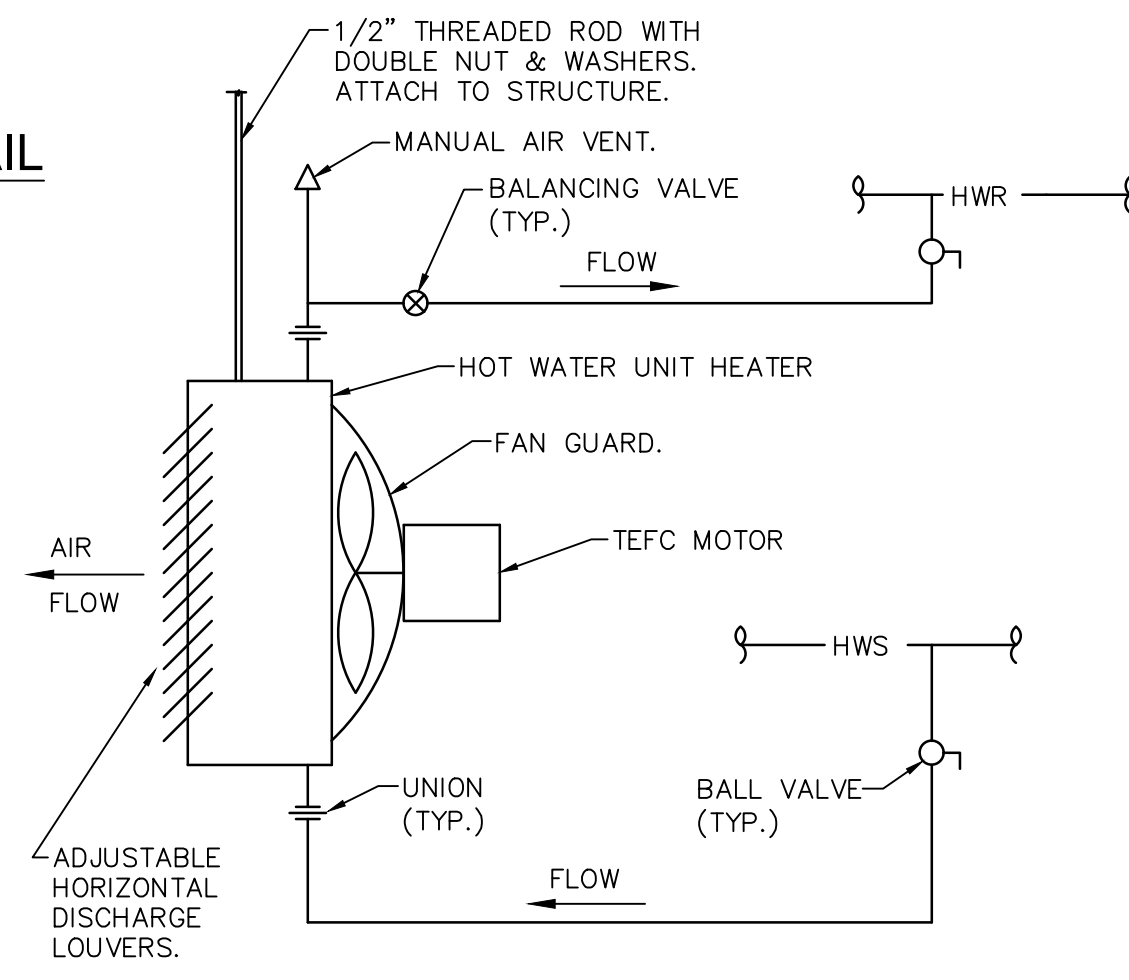
5 TANKER CONNECTION DETAIL
SCALE: NONE



6 EXTERIOR WALL SLEEVE DETAIL
SCALE: NONE



7 PIPE SLEEVE THRU INTERIOR WALL
SCALE: NONE



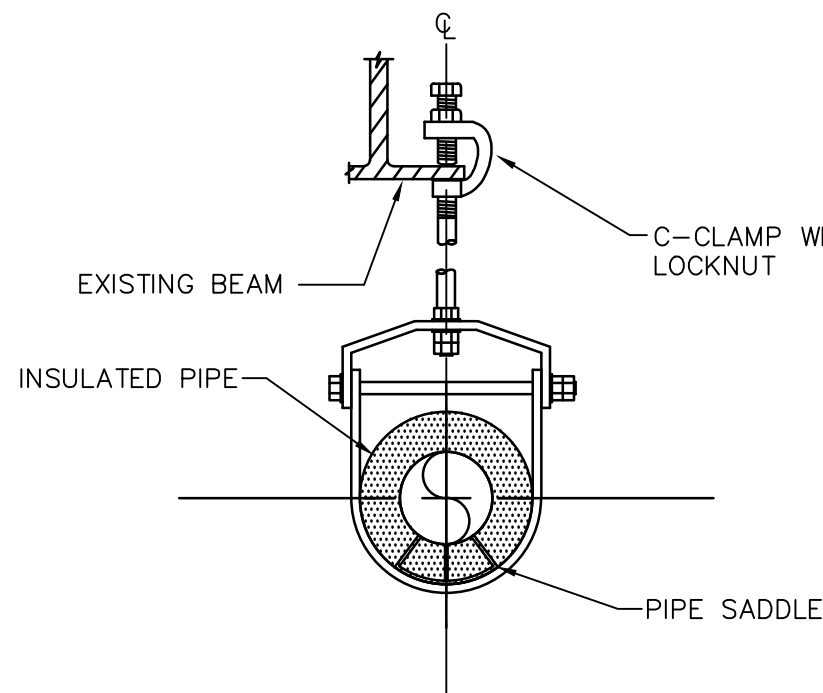
8 HORIZONTAL HOT WATER UNIT HEATER PIPING
SCALE: NONE

WATER HEATER SCHEDULE																
EQUIPMENT TAG	BASIS OF DESIGN			LOCATION	SERVICE	WORKING FLUID	FLOW (GPM)	WPD (FT)	STORAGE (GAL.)	DOMESTIC WATER		RECOVERY (GPH)	GAS INPUT MAX (MBH)	ELECTRICAL	NOTES	
	MANUFACTURER	MODEL	TYPE							EWT (°F)	LWT (°F)			V/PH/Hz		
DWH-1	LOCHINVAR	SQUIRE SIT065	INDIRECT	SEE PLAN	DOMESTIC HOT WATER PRE-HEAT	40% GLYCOL	14	5.7	67	50	140	-	-	-	1	
DWH-2	AO SMITH	BTH 150 100	GAS-FIRED	MILKING PARLOR MECHANICAL ROOM	DOMESTIC HOT WATER POST-HEAT	-	-	-	100	140	180	170.9	150	120/1/60	1, 2	
DWH-3	LOCHINVAR	SQUIRE SIT030	INDIRECT	SEE PLAN	DOMESTIC HOT WATER PRE-HEAT	40% GLYCOL	14	3.9	27	50	140	-	-	-	1	
NOTES:																
1. PROVIDE T&P RELIEF VALVE PIPED TO SAFE POINT OF DISCHARGE																
2. PROVIDE HEAT TRAPS ON WATER CONNECTIONS																

FIXTURE TAG	FIXTURE	PLUMBING CONNECTION SIZES (IN.)				MOUNTING HEIGHT (IN.)	DESCRIPTION
		WASTE	VENT	COLD WATER	HOT WATER		
HB-1	HOSE BIB	-	-	-	1/2	18	1. NIBCO T-585-70-HC, TWO-PIECE BRONZE BALL VALVE - THREADED AND HOSE CONNECTIONS 2. ASSE 1015 DOUBLE CHECK BACKFLOW PREVENTER
EW-1	EYEWASH	1-1/4	-	1/2	1/2	36	1. GUARDIAN G1750BC EYE/FACE WASH, WALL MOUNTED, STAINLESS STEEL BOWL AND COVER 2. WATTS E5150 EXPOSED SUPPLY FIXTURE - HYDROGUARD XP SERIES FOR EYE/FACE WASH. ASSE 1071 COMPLIANT 3. 1-1/4 WASTE OUTLET TO BE INDIRECT DRAINED TOWARDS GRATED PIT 4. UNIT SHOULD BE INSTALLED SO THAT WATER FLOW PATTERN IS POSITIONED BETWEEN 33° AND 53° ABOVE FLOOR.

PUMP SCHEDULE												
EQUIPMENT TAG	BASIS OF DESIGN		TYPE PUMP	SERVICE	FLUID TEMP (°F)	FLUID FLOW (GPM)	TOTAL HEAD (FT)	MOTOR				NOTES
	MANUFACTURER	MODEL						ENCLOSURE	HP	RPM	V/PH/HZ	
P-1				GLYCOL HW LOOP	170	17	85					
NOTES:												

EQUIPMENT TAG	BASIS OF DESIGN		SERVICE	TYPE	CFM	HOT WATER COIL					ELECTRICAL		NOTES
	MANUFACTURER	MODEL				MBH	GPM	WPD	EWT (°F)	LWT (°F)	HP	V/PH/Hz	
UH-1	MODINE	V/VN 212	SAND DRYING	VERTICAL HW	3,610	161.7	16.8	1.5	180	160	1/3	115/1/60	1
UH-2	MODINE	HSB 258	HEAT REJECTION	HORIZONTAL HW	4,560	201.9	21	5.7	180	160	1/2	115/1/60	1
NOTES: 1. CONTROLLED VIA BMS SIGNAL TO MOTOR STARTER													



4 CLEVIS HANGER WITH INS. SADDLE DETAIL
SCALE: NONE

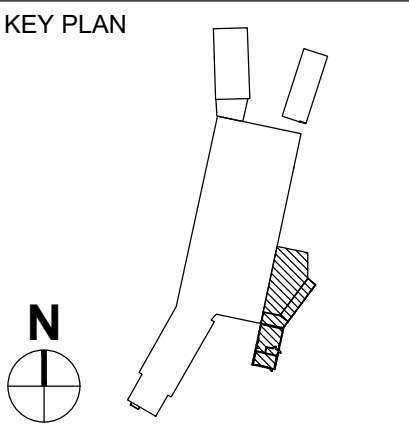


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PROJECT #:	19640.08
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CHECKED BY:	BFW
SCALE:	NONE

VERIFY SCALE

BAR IS ONE (1) INCH LONG ON ORIGINAL DRAWING:

0 1

IF BAR IS NOT ONE (1) INCH LONG, ADJUST SCALE ACCORDINGLY

MECHANICAL DETAILS AND SCHEDULES

SEQUENCE OF OPERATION:

THE SYSTEM SHALL RUN CONTINUOUSLY.

THE SYSTEM BYPASS VALVES SHALL MODULATE TO MAINTAIN A 20 DEG. F TEMPERATURE DIFFERENCE BETWEEN THE HEATING HOT WATER SUPPLY AND RETURN WITH THE FOLLOWING PRIORITY;

- MILKING PARLOR DOMESTIC HOT WATER PRODUCTION (DWH-1)
- MANURE SEPARATION SHED DOMESTIC HOT WATER PRODUCTION (DWH-3)
- SAND SHED SAND DRYING UNIT HEATER (UH-1)
- HEAT REJECTION UNIT HEATER (UH-2)

THE MILKING PARLOR DOMESTIC HOT WATER HEATER (DWH-1) BYPASS VALVE SHALL MODULATE TO MAINTAIN A TANK TEMPERATURE SET-POINT OF 140 DEG. F (ADJ.).

THE MANURE SEPARATION SHED DOMESTIC HOT WATER HEATER (DWH-3) BYPASS VALVE SHALL MODULATE TO MAINTAIN THE MANURE SEPARATION SHED DOMESTIC HOT WATER TANK TEMPERATURE SET-POINT OF 140 DEG. F (ADJ.). THE BYPASS VALVE SHALL MODULATE OPEN ONLY WHEN THE DWH-1 BYPASS VALVE IS FULLY OPEN AND THE 20 DEG. F. DIFFERENCE BETWEEN SUPPLY AND RETURN TEMPERATURE IS NOT SATISFIED, OR WHEN THE DWH-1 BYPASS VALVE IS CLOSED BECAUSE THE TANK TEMPERATURE SET-POINT IS SATISFIED.

THE SAND SHED SAND DRYING UNIT HEATER (UH-1) BYPASS VALVE SHALL MODULATE OPEN ONLY WHEN THE DWH-3 BYPASS VALVE IS FULLY OPEN AND THE 20 DEG. F. DIFFERENCE BETWEEN SUPPLY AND RETURN TEMPERATURE IS NOT SATISFIED, OR WHEN BOTH THE DWH-1 AND DWH-3 BYPASS VALVES ARE CLOSED BECAUSE THE TANK TEMPERATURE SET-POINTS ARE SATISFIED

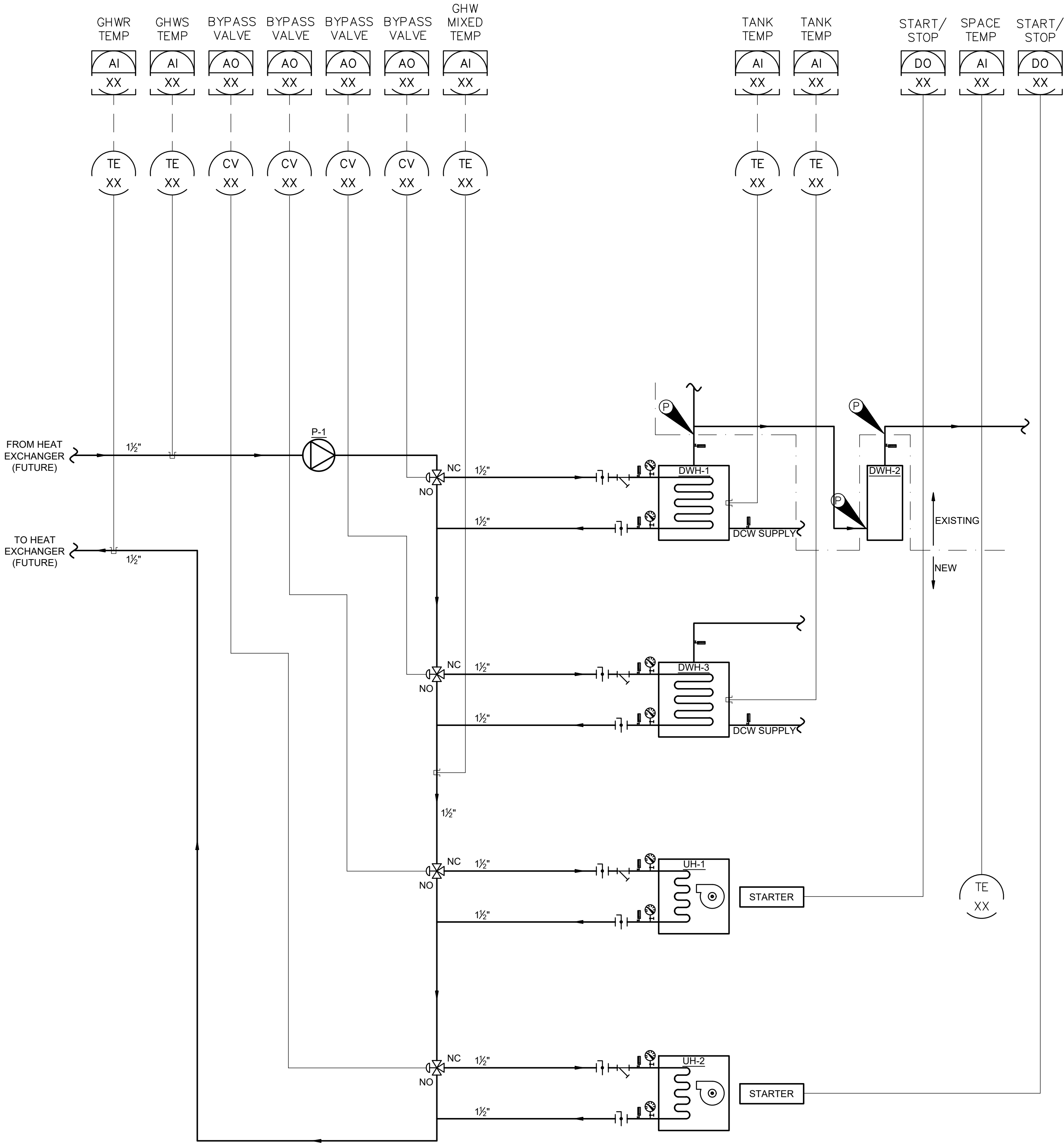
AS THE HEATING HOT WATER RETURN TEMPERATURE BEGINS TO FALL BELOW THE 20 DEG. F DIFFERENCE, THE BYPASS VALVES SHALL START MODULATING CLOSED IN REVERSE PRIORITY.

IF THE SAND SHED SPACE TEMPERATURE EXCEEDS 90 DEG. F (ADJ.), THE INDOOR UNIT HEATER SHALL BE LOCKED OUT AND THE OUTDOOR HEAT REJECTION UNIT HEATER SHALL BE ENABLED.

IF THE HEATING HOT WATER SUPPLY TEMPERATURE EXCEEDS 185 DEG. F (ADJ.) ALL BYPASS VALVES SHALL MODULATE OPEN AND ALARM SHALL BE GENERATED.

GENERAL CONTROLS NOTES:

- PROVIDE A NEW BUILDING MANAGEMENT SYSTEM TO CONTROL, MONITOR, ALARM AND TREND THE NEW MECHANICAL SYSTEMS.
- PROVIDE A NEW CONTROL PANEL IN THE MANURE SEPARATION SHED. SEE M-101 FOR EXACT LOCATION. SEE E-101 FOR POWER AND DATA CONNECTIONS.
- PROVIDE A NEW CONTROL PANEL IN THE MILKING PARLOR MECHANICAL ROOM. SEE M-101 FOR EXACT LOCATION. SEE E-101 FOR POWER AND DATA CONNECTIONS.
- PROVIDE FULL SIZE, 3-WAY, FULLY MODULATING, 24V POWERED CLOSED, BYPASS VALVES.



NOTE: UNAUTHORIZED ALTERATION OR ADDITION TO THIS DRAWING IS A VIOLATION OF THE NEW YORK STATE EDUCATION LAW ARTICLE 145, SECTION 7209.

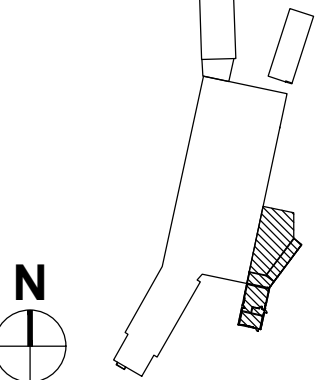
REVISIONS		
#	DESCRIPTION	DATE

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CONSTRUCTION DOCUMENTS
TEACHING DAIRY BARN EXPERIMENTAL ANAEROBIC DIGESTER ENABLING
CORNELL UNIVERSITY
ITHACA, NY 14850

KEY PLAN



DATE:	10/24/2025
PROJECT #:	19640.08
DRAWN BY:	ADK
CHECKED BY:	BFW
SCALE:	NONE

VERIFY SCALE

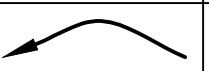
BAR IS ONE (1) INCH LONG ON ORIGINAL DRAWING:

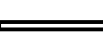
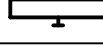
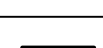
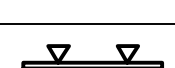
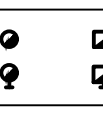
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IF BAR IS NOT ONE (1) INCH LONG, ADJUST SCALE ACCORDINGLY

MECHANICAL PIPING
AND CONTROLS
SCHEMATIC

M-601

DISTRIBUTION	
	EXISTING PANELBOARD - FLUSH MOUNTED
	EXISTING PANELBOARD - SURFACE MOUNTED
	PANELBOARD - FLUSH MOUNTED
	PANELBOARD - SURFACE MOUNTED
	CONTROL PANEL - FLUSH MOUNTED
	CONTROL PANEL - SURFACE MOUNTED
	HOMERUN TO PANELBOARD
	EQUIPMENT CONNECTION FLEX CONDUIT
	EQUIPMENT ON SAME CIRCUIT BUT SEPARATELY CONTROLLED
	PRIMARY ELECTRIC SERVICE
	SECONDARY ELECTRIC CIRCUIT

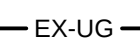
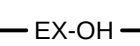
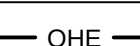
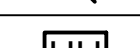
LIGHTING FIXTURES	
	LIGHTING FIXTURE - SEE FIXTURE SCHEDULE
	LINEAR LIGHTING FIXTURE - SEE FIXTURE SCHEDULE
	WALL MOUNTED LIGHTING FIXTURE - SEE FIXTURE SCHEDULE
	CEILING MOUNTED LIGHTING FIXTURE - SEE FIXTURE SCHEDULE
	WALL MOUNTED LIGHTING FIXTURE - SEE FIXTURE SCHEDULE
	EXTERIOR LIGHTING FIXTURE - SEE FIXTURE SCHEDULE
	WALL WASH LIGHTING FIXTURE - SEE FIXTURE SCHEDULE
	TRACK LIGHTING FIXTURE - SEE FIXTURE SCHEDULE
	LIGHTING FIXTURES ON A NORMAL EMERGENCY CIRCUIT - SEE FIXTURE SCHEDULE
	DIRECTION ARROWS FOR EXIT SIGNS AS REQUIRED
	WALL MOUNTED EXIT SIGN - SEE FIXTURE SCHEDULE
	CEILING MOUNTED EXIT SIGN - SEE FIXTURE SCHEDULE
	EMERGENCY BATTERY UNIT WITH HEADS- SEE FIXTURE SCHEDULE
	REMOTE HEAD(S) FOR EMERGENCY BATTERY UNIT
	LIGHTING FIXTURES ON A NORMAL EMERGENCY CIRCUIT - SEE FIXTURE SCHEDULE
	LIGHTING FIXTURES ON EMERGENCY ONLY CIRCUIT - SEE FIXTURE SCHEDULE

EQUIPMENT	
	BLANK OUTLET
	JUNCTION BOX - WALL OR CEILING
	JUNCTION BOX - RECESSED IN FLOOR
	ENCLOSED CIRCUIT BREAKER - SIZE AS INDICATED
	CONTACTOR
	DRY TYPE TRANSFORMER - SIZE AS NOTED
	DISCONNECT SWITCH - NON FUSED 5' AFF TO TOP OF BOX
	DISCONNECT SWITCH - FUSED 5' AFF TO TOP OF BOX
	COMBINATION STARTER/DISCONNECT - 5' AFF TO TOP OF BOX
	MOTOR STARTER
	MOTOR
	RELAY
	METER
	FAN
	PUSH BUTTON
	SURGE PROTECTIVE DEVICE
	VARIABLE FREQUENCY DRIVE
	CORD REEL, "C" = HUNG FROM CEILING
	CORD DROP
	POWER SUPPLY
	POWER POLE
	EMERGENCY POWER OFF BUTTON
	MUSHROOM SWITCH
	EQUIPMENT CONNECTION - REFER TO SCHEDULE
	MANUAL MOTOR STARTER

RECEPTACLES	
	DUPLEX RECEPTACLE - NEMA 5-20R - WALL MOUNTED - FLUSH
	DUPLEX RECEPTACLE - NEMA 5-20R - FLOOR MOUNTED - FLUSH
	DOUBLE DUPLEX RECEPTACLE - NEMA 5-20R - WALL MOUNTED - FLUSH
	DOUBLE DUPLEX RECEPTACLE - NEMA 5-20R - FLOOR MOUNTED - FLUSH
	SINGLE RECEPTACLE - NEMA 5-20R - WALL MOUNTED - FLUSH
	SPECIAL PURPOSE - SUBSCRIPT INDICATES NEMA TYPE - WALL MOUNTED - FLUSH
	MULTI-SERVICE FLOORBOX - QUANTITY OF RECEPTACLES AND DATA JACKS SHOWN ON PLANS - (SEE SPECIFICATIONS)
	TWO GANG POWER WHIP BOX WITH BLANK STEEL COVER, WALL MOUNTED
	FLOOR POKE-THRU - SUBSCRIPT INDICATES TYPE - (SEE SPECIFICATIONS)
	DUPLEX RECEPTACLE - NEMA 5-20R - CEILING MOUNTED
	DOUBLE DUPLEX RECEPTACLE - NEMA 5-20R - CEILING MOUNTED
NOTE: WALL MOUNTED DEVICES SHALL BE 18" AFF TO CENTER OF BOX, UNO.	
DEVICE DESIGNATIONS: C - MOUNT 6" ABOVE SINK OR COUNTERTOP TO BOTTOM OF BOX CD - CORD DROP CTL - CONTROLLED RECEPTACLE F - FLOOR MOUNTED GFI - GROUND FAULT CIRCUIT INTERRUPTER H - MOUNT HORIZONTALLY 6" ABOVE SINK OR COUNTERTOP TO BOTTOM OF BOX IG - ISOLATED GROUND R - REFRIGERATOR, MOUNT 42" AFF. SP - SURGE PROTECTED TR - TAMPER RESISTANT TV - TV MONITOR, WALL MOUNT, COORDINATE LOCATION W/ MOUNTING BRACKET USB - USB CHARGER WP - WEATHER RESISTANT GROUND FAULT CIRCUIT INTERRUPTER WITH WEATHERPROOF WHILE-IN-USE COVER # - CIRCUIT NUMBER	

TECHNOLOGY	
	VOICE OUTLET - WALL MOUNTED - FLUSH
	DATA OUTLET - WALL MOUNTED - FLUSH
	VOICE/DATA OUTLET - (2) DATA JACKS & (1) VOICE JACK - WALL MOUNTED - FLUSH
	WIRELESS ACCESS POINT - CEILING MOUNTED (POWER OVER ETHERNET)
	DATA OUTLET - CEILING MOUNTED
	VOICE/DATA POWER POLE
	ELECTRONIC TIME CLOCK - MOUNTED 48" AFF TO CENTER, UNO
	CLOCK - HEIGHT AS NOTED
	VOLUME CONTROL - MOUNTED 46" AFF TO CENTER, UNO
	INTERCOM STATION - MOUNTED 46" AFF TO CENTER, UNO
	TV MONITOR OUTLET - WALL MOUNTED - FLUSH - COORDINATE LOCATION WITH MOUNTING BRACKET (PROVIDED BY OTHERS)
	CEILING MOUNTED SPEAKER
	WALL MOUNTED SPEAKER - HEIGHT AS NOTED
NOTE: WALL MOUNTED DEVICES SHALL BE 18" AFF TO CENTER OF BOX, UNO	
DEVICE DESIGNATIONS: C - MOUNT 6" ABOVE COUNTER TOP TO BOTTOM OF BOX F - FLOOR MOUNTED H - MOUNTED HORIZONTALLY 6" ABOVE COUNTER TOP TO BOTTOM OF BOX W - WALL MOUNTED, 48" AFF TO CENTER # - NUMBER OF JACKS	

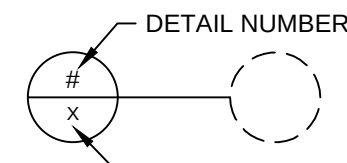
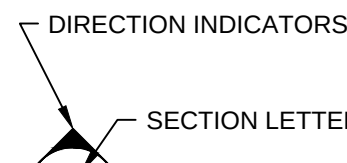
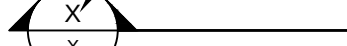
SWITCHES	
	SINGLE POLE - WALL MOUNTED - FLUSH
	EMERGENCY LIGHTING CONTROL UNIT
	ROOM CONTROLLER
	DUAL-TECHNOLOGY INFRARED/ULTRASONIC OCCUPANCY SENSOR - CELING MOUNTED
	PASSIVE INFRARED OCCUPANCY SENSOR - CELING MOUNTED
	ULTRASONIC OCCUPANCY SENSOR - CEILING MOUNTED
	OCCUPANCY SENSOR WITH AUXILIARY CONTACT FOR BMS INPUT - CELING MOUNTED (X = SENSORY TECHNOLOGY)
	OCCUPANCY SENSOR - WALL MOUNTED (SAME SUBSCRIPTS AS CELING MOUNTED)
	DAYLIGHT SENSOR
	DAYLIGHT HARVESTING CONTROLLER
	PHOTOCELL
	SWITCHPACK
NOTE: WALL MOUNTED SWITCHES SHALL BE 46" AFF TO CENTER OF DEVICE	
SWITCH DESIGNATIONS: 3 = THREE WAY 4 = FOUR WAY K = KEYED LV = LOW VOLTAGE D = DIMMER SWITCH MC - MOMENTARY CONTACT MT - MANUAL TIMER OS - OCCUPANCY SENSOR OZ - OCCUPANCY SENSOR, DUAL CIRCUIT TYPE OB - OCCUPANCY SENSOR, SINGLE CIRCUIT W/ AUX CONTACT FOR BMS VS - VACANCY SENSOR P - PILOT LIGHT T - DIGITAL TIMER	

SITE LEGEND	
	EXISTING UNDERGROUND ELECTRIC - TO REMAIN
	EXISTING OVERHEAD ELECTRIC - TO REMAIN
	NEW UNDERGROUND ELECTRIC
	NEW UNDERGROUND TELECOM
	NEW OVERHEAD ELECTRIC
	LIGHT STANDARD
	POLE MOUNTED LIGHTING FIXTURE
	UTILITY POLE
	HANDHOLE
	GROUND ROD

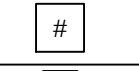
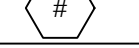
GENERAL NOTES:	
1.	CONTRACTORS ARE URGED TO INSPECT THE SITE BEFORE SUBMITTING A BID PROPOSAL. TO ENSURE KNOWLEDGE OF PROJECT REQUIREMENTS AND SITE CONDITIONS. IF NO CLARIFICATION IS REQUESTED, IT WILL BE CONSIDERED THAT THE CONTRACTORS ARE IN FULL UNDERSTANDING OF PROJECT REQUIREMENTS.
2.	PROVIDE LABOR, SUPERVISION, EQUIPMENT, MATERIALS, AND SERVICES REQUIRED FOR THE COMPLETE INSTALLATION WORK IN ACCORDANCE WITH APPLICABLE FEDERAL, STATE, AND LOCAL CODES, AUTHORITIES HAVING JURISDICTION, AND STANDARDS INCLUDING BUT NOT LIMITED TO, ASHRAE, IBC, NEC, AND NFPA.
3.	NOTHING CONTAINED IN THE SPECIFICATIONS OR SHOWN ON THE DRAWINGS SHALL BE CONSTRUED TO BE IN CONFLICT WITH ANY STATE OR LOCAL CODES, ORDINANCES OR REGULATIONS.
4.	THE USE OF THE WORD "PROVIDE" SHALL MEAN TO FURNISH, INSTALL AND CONNECT, READY TO USE.
5.	THE USE OF THE WORD "FURNISH" SHALL MEAN TO PROCURE AND DELIVER TO THE SITE.
6.	THE USE OF THE WORD "INSTALL" SHALL MEAN TO PHYSICALLY PLACE INTO SERVICE AND CONNECT, READY TO USE.
7.	EQUIPMENT AND MATERIALS SHALL BE INSTALLED BY SKILLED TRADESMEN, FAMILIAR WITH THE COMPONENTS TO BE INSTALLED, AND IN ACCORDANCE WITH BEST PRACTICES OF THE INDUSTRY.
8.	BECAUSE OF THE SMALL SCALE OF THE DRAWINGS, IT IS NOT POSSIBLE TO INDICATE ALL OFFSETS, FITTINGS, AND ACCESSORIES THAT MAY BE REQUIRED. THIS CONTRACTOR SHALL CAREFULLY EXAMINE THE ARCHITECTURAL, STRUCTURAL, HEATING, VENTILATING AND AIR-CONDITIONING, ELECTRICAL, PLUMBING, AND OTHER PROJECT DOCUMENTS AS MAY BE NECESSARY FOR PROPER OPERATION OR INSTALLATION AND SHALL PROVIDE OFFSETS, FITTINGS, AND ACCESSORIES TO MEET PROJECT CONDITIONS.
9.	DISCREPANCIES BETWEEN DRAWINGS OR BETWEEN DRAWINGS AND SPECIFICATIONS SHALL BE REPORTED TO PROFESSIONAL IN WRITING. OBTAIN WRITTEN INSTRUCTIONS FROM PROFESSIONAL AS TO THE MANNER IN WHICH TO PROCEED. NO DEPARTURES FROM THE PROJECT DOCUMENTS SHALL BE MADE WITHOUT PRIOR WRITTEN ACCEPTANCE BY THE PROFESSIONAL.
10.	DIMENSIONS, CLEARANCES, AND LOCATIONS OF EQUIPMENT AND MATERIALS SHALL BE FIELD VERIFIED PRIOR TO ORDERING, PROCURING AND FURNISHING SAME.
11.	NO EXTRA COMPENSATION OR CHARGES WILL BE ACCEPTED DUE TO DIFFERENCES BETWEEN THE ACTUAL MEASUREMENTS AND THOSE INDICATED ON THE PLAN. THOROUGHLY COORDINATE WORK WITH SITE CONDITIONS AND OTHER TRADES, DETERMINE EXACT ROUTE AND LOCATION OF EACH DUCT, PIPE, CONDUIT, ETC. BEFORE FABRICATION AND INSTALLATION.
12.	INSTALL WORK SUBSTANTIALLY AS INDICATED. VERIFY LOCATIONS AND ELEVATIONS ON JOB SITE; DO NOT DIRECTLY SCALE DRAWINGS. MAKE NECESSARY CHANGES IN ELEVATION, FITTINGS, OR OFFSETS TO ACCOMMODATE OBSTACLES OR INTERFERENCES.
13.	CONTRACTOR SHALL ASSUME FULL RESPONSIBILITY FOR DAMAGE TO THE BUILDING, PIPING OR EQUIPMENT THAT IS THE RESULT OF WORK FOR INSTALLATION OF THIS CONTRACT.
14.	THE INSTALLING CONTRACTOR IS RESPONSIBLE FOR PATCH AND REPAIR OF ALL SURFACES TO MATCH EXISTING MATERIALS AND ADJACENT FINISHES ASSOCIATED WITH INSTALLATION/REMOVAL OF THIS WORK UNLESS SPECIFICALLY NOTED OTHERWISE.
15.	WORK SHALL BE COMPLETED TO MAINTAIN ALL NECESSARY AND REQUIRED CLEARANCES, ACCESSES, AND OPENINGS, SUCH THAT FULL FUNCTIONALITY, PROPER OPERATION, AND REPAIR AND MAINTENANCE ARE ENSURED.
16.	WHERE DEVICE HEIGHT OCCURS AT POINT OF CHANGE OF FINISH, THE DEVICE HEIGHT SHALL BE ADJUSTED TO OCCUR IN ONE FINISH. ENSURE RESULTING HEIGHT DOES NOT EXCEED ADA REQUIREMENTS.
17.	WHERE DEVICE OCCURS IN BRICK, TILE, OR BLOCK WALLS, THEY SHALL BE MOUNTED AT A VERTICAL MASONRY JOINT & IN EITHER THE TOP OR BOTTOM HORIZONTAL JOINT, CLOSEST TO THE MOUNTING HEIGHT. ENSURE RESULTING HEIGHT DOES NOT EXCEED ADA REQUIREMENTS.
18.	UNLESS OTHERWISE NOTED, ALL MOUNTING HEIGHT DIMENSIONS LISTED ARE TO THE CENTER LINE OF THE WALL BOX OR DEVICE.
19.	ALL ELECTRICAL MATERIALS, DEVICES, APPLIANCES, AND EQUIPMENT SHALL BE LABELED AND LISTED BY A CERTIFIED TESTING LABORATORY OR AGENCY.
20.	DRAWINGS REPRESENT THE SCOPE OF WORK IN GENERAL ARRANGEMENT FORM AND ARE INTENDED TO SHOW GENERAL ROUTING AND REQUIRED SIZES/CAPACITIES OF SYSTEM COMPONENTS.

GENERAL DEMOLITION NOTES:	
1.	THE DEMOLITION PLANS AND NOTES HAVE BEEN PREPARED TO ASSIST THE CONTRACTORS IN IDENTIFYING THE AREAS AND ITEMS OF DEMOLITION AND RENOVATION ASSOCIATED WITH THIS PROJECT. THE INFORMATION PROVIDED IS NOT MEANT TO BE ALL-INCLUSIVE IN TERMS OF LISTING EACH AND EVERY SPECIFIC TASK TO BE PERFORMED. EACH CONTRACTOR WILL THOROUGHLY EXAMINE ALL CONTRACT DOCUMENTS PRIOR TO PERFORMING ANY WORK.
2.	DEMOLITION WORK INCLUDES, BUT IS NOT LIMITED TO, THE ITEMS INDICATED ON THE DEMOLITION DRAWINGS AND DESCRIBED IN THE DEMOLITION NOTES. THE EXTENT OF THE DEMOLITION WORK WILL INCLUDE ALL WORK REQUIRED TO COMPLETE THE PROJECT AND ENSURE WHETHER OR NOT THE WORK IS INDICATED ON THE DRAWINGS.
3.	EACH CONTRACTOR SHALL THOROUGHLY EXAMINE AND VERIFY ALL EXISTING CONDITIONS BEFORE PERFORMING ANY WORK AND IMMEDIATELY NOTIFY THE ARCHITECT, IN WRITING, OF ANY DISCREPANCIES WITH THE DRAWINGS.
4.	ANY WORK PERFORMED AS PART OF THIS CONTRACT REQUIRING OR ALTERATION WILL BE THE RESPONSIBILITY OF THE RESPECTIVE CONTRACTOR.
5.	ALL ITEMS NOTED TO BE REMOVED TO BE DISPOSED OF OFF-SITE BY RESPECTIVE CONTRACTORS, UNLESS NOTED OTHERWISE. WHERE INDICATED ON THE DRAWINGS AND/OR IN THE NOTES AS SALVAGE AND DELIVER TO OWNER. THE CONTRACTOR WILL CAREFULLY REMOVE INDICATED ITEMS AND STORE THEM WHERE DIRECTED BY THE OWNER.
6.	THE OWNER HAS THE OPTION TO RETAIN POSSESSION OF ANY REMOVED MATERIALS OR EQUIPMENT. ALL SUCH ITEMS SHALL BE CAREFULLY REMOVED AND STORED AT THE SITE BY THE CONTRACTOR WHERE DIRECTED BY THE OWNER. ANY MATERIALS OR EQUIPMENT NOT RETAINED BY THE OWNER WILL BECOME THE PROPERTY OF THE CONTRACTOR AND PROMPTLY REMOVED FROM SITE.
7.	ANY CONTRACTOR REMOVING OR MODIFYING MATERIAL CONTAINING ASBESTOS OR SUSPECTED OF CONTAINING ASBESTOS WILL NOTIFY THE OWNER AT ONCE AND STOP REMOVAL. IDENTIFICATION AND/OR REMOVAL OF ASBESTOS CONTAINING MATERIAL WILL BE THE RESPONSIBILITY OF THE OWNER.
8.	REFER TO ARCHITECTURAL, STRUCTURAL, MECHANICAL, ELECTRICAL, TECHNOLOGY AND PLUMBING DRAWINGS FOR DEMOLITION WORK BY RESPECTIVE CONTRACTORS. EACH CONTRACTOR IS RESPONSIBLE FOR ALL DEMOLITION ASSOCIATED WITH HIS CONTRACT AND SCOPE OF WORK. EACH CONTRACTOR IS RESPONSIBLE TO PATCH AND/OR REPAIR ANY AND ALL CONSTRUCTION AFFECTED BY HIS DEMOLITION. THE EXTENT OF PATCH AND REPAIR SHALL BE AS REQUIRED TO RECEIVE THE SCHEDULED NEW WORK. ALL CONTRACTORS ARE RESPONSIBLE FOR COORDINATION OF WORK WITH OTHER CONTRACTORS BEFORE PERFORMING ANY WORK.
9.	ALL PATCH AND REPAIR WORK SHALL BE PERFORMED USING MATERIALS THAT MATCH THE EXISTING ADJACENT CONSTRUCTION. WHERE PATCHING EXISTING MASONRY WALLS OR INFILLING BETWEEN WALLS WITH MASONRY TO MATCH EXISTING, "TOOTH-IN" NEW MASONRY TO EXISTING.
10.	EACH CONTRACTOR IS RESPONSIBLE TO PROTECT ALL EXISTING CONSTRUCTION SCHEDULED TO REMAIN. EACH CONTRACTOR IS RESPONSIBLE TO PATCH AND/OR REPAIR ANY AND ALL CONSTRUCTION AFFECTED BY THEIR DEMOLITION. EACH CONTRACTOR SHALL PATCH (SUBSTRATE AND FINISHED SURFACES) ANY EXISTING FINISHES AFFECTED BY THEIR RESPECTIVE WORK.
11.	EXISTING CONDITIONS INDICATED ARE OBTAINED FROM AVAILABLE SOURCES (EXISTING DRAWINGS, FIELD SURVEYS, ETC.) AND ARE NOT GUARANTEED TO BE TRUE AND EXACT. CONTRACTOR(S) SHALL FIELD VERIFY EXISTING CONDITIONS AND NOTIFY THE ENGINEER OF ANY DISCREPANCIES PRIOR TO PROCEEDING WITH THE AFFECTED PORTION OF THE WORK.
12.	REMOVAL IN ITS ENTIRETY INCLUDES HANGERS, ELECTRICAL, CONTROLS, ETC., TO LEAVE A LIKE NEW OR MATCHING EXISTING CONDITION.

ABBREVIATIONS			
A, AMP	AMPERE	MAX	MAXIMUM
ABN	ABANDON	MCB	MAIN CIRCUIT BREAKER
AFF	ABOVE FINISHED FLOOR	MCC	MOTOR CONTROL CENTER
AFG	ABOVE FINISHED GRADE	MDP	MAIN DISTRIBUTION PANEL
AIC	AMPERES INTERRUPTING CURRENT	MH	MANHOLE
ATS	AUTOMATIC TRANSFER SWITCH	MIN	MINIMUM
AWG	AMERICAN WIRE GAUGE	MLO	MAIN LUG ONLY
		MOV	METAL OXIDE VARISTOR
BFF	BELOW FINISHED FLOOR	MOD	MOTOR OPERATED DAMPER
BFG	BELOW FINISHED GRADE	MVA	MEGAVOLT AMPERES
BIL	BASIC IMPULSE LEVEL		
BLDG	BUILDING	NC	NORMALLY CLOSED
		NE	NORMAL EMERGENCY
C	CONDUIT	NEC	NATIONAL ELECTRICAL CODE
CB	CIRCUIT BREAKER	NEMA	NATIONAL ELECTRICAL MANUFACTURER'S ASSOCIATION
CONC	CONCRETE		
CONN	CONNECTION	NIC	NOT IN CONTRACT
CT	CURRENT TRANSFORMER	NO	NORMALLY OPEN
CU	COPPER	NTS	NOT TO SCALE
		OC	ON CENTER
DET	DETAIL	OH	OVERHEAD
DIA, Ø	DIAMETER		
DN	DOWN		
DWG	DRAWING	P	POLE
		PFFB	PROVISIONS FOR FUTURE BREAKER
E,(E)	ELECTRIC, ELECTRICAL	PH, Ø	PHASE
EC	ELECTRICAL CONTRACTOR	PNL	PANEL
ELEV	ELEVATION	PT	POTENTIAL TRANSFORMER
EM,EMER	EMERGENCY	PVC	POTOLYVINYLCHLORIDE
EQUIP	EQUIPMENT		
ETR	EXISTING TO REMAIN		
EX,EXIST	EXISTING		
EXH	EXHAUST	REQ'D	REQUIRED
EXT	EXTERNAL	RGS	RIGID GALVANIZED STEEL
		RLA	RUNNING LOAD AMPS
FA	FIRE ALARM	RES	RESISTOR
FCU	FAN COIL UNIT	RMC	RIGID METAL CONDUIT
FLA	FULL LOAD AMPERES	RMS	ROOT MEAN SQUARE
FLEX	FLEXIBLE	RPM	REVOLUTIONS PER MINUTE
FLR	FLOOR	RX	REMOVE EXISTING
FIN	FINISHED		
FT	FEET	SEC	SECOND
FU	FUSE	SYM	SYMMETRICAL
GA	GAUGE	TEMP	TEMPERATURE
GALV	GALVANIZED	TRANS	TRANSFORMER
GC	GENERAL CONTRACTOR	TYP	TYPICAL
GEN	GENERATOR		
GR	GRADE	UG	UNDERGROUND
GRD	GROUND	UH	UNIT HEATER
		UNO	UNLESS NOTED OTHERWISE
HP	HORSEPOWER		
HZ	HERTZ	V	VOLTS
		VAC	VOLTS ALTERNATING CURRENT
INT	INTERRUPTING	VM	VOLT METER
		VP	VAPOR PROOF
KA	KILO AMPERE		
KCMIL	THOUSAND CIRCULAR MILS	W	WIRE
KV	KILOVOLT	WG	WIRE GUARD
KVA	KILOVOLT AMPERES	W/	WITH
KVAR	KILOVOLT AMPERES REACTIVE	W/O	WITHOUT
KWH	KILOWATT HOUR	WT	WEIGHT
		XFMR	TRANSFORMER
LA	LIGHTNING ARRESTOR		
L-N	LINE TO NEUTRAL		

DETAIL, SECTION, & CONNECTION MARKS	
	DETAIL NUMBER
	SHEET DETAIL APPEARS ON
	DIRECTION INDICATORS
	SECTION LETTER
	SHEET DETAIL APPEARS ON
	SECTION
	POINT OF CONNECTION TO EXISTING
	REMOVE EXISTING FROM OR TO THIS POINT

GENERAL SYMBOL NOTES:	
1.	EXISTING DEVICES TO REMAIN ARE SHOWN IN LIGHT LINEWEIGHT.
2.	EXISTING DEVICES TO BE REMOVED ARE SHOWN IN DASHED LINEWEIGHT.
3.	NOT ALL ABBREVIATIONS & SYMBOLS MAY APPLY TO THIS PROJECT.

DRAWING CONVENTIONS	
	DRAWING NOTE - REFER TO DRAWING NOTE LIST ON SHEET (NEW WORK)
	DRAWING NOTE - REFER TO DRAWING NOTE LIST ON SHEET (DEMOLITION)
	FEEDER TAG - REFER TO FEEDER SCHEDULE ON DRAWING EX.XXX

ERDMAN ANTHONY
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Ithaca, NY 14850-1678
Telephone: 605.427.5888
www.erdmananthony.com



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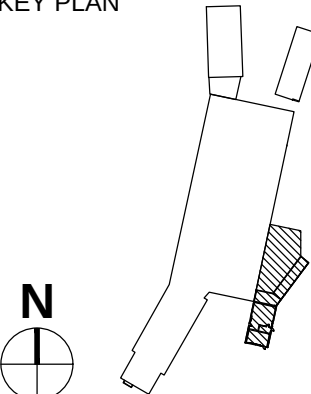
REVISIONS		
#	DESCRIPTION	DATE

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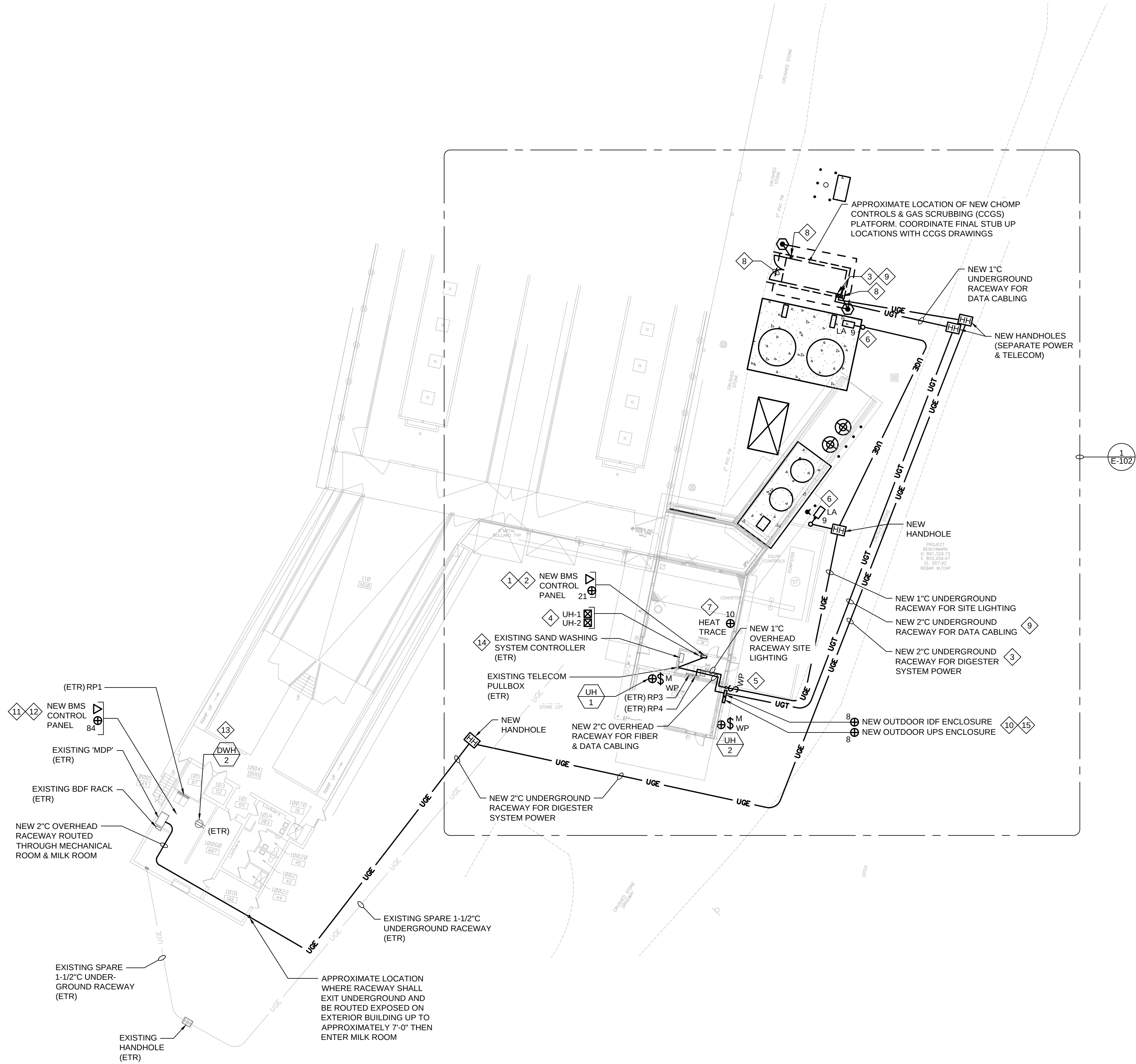
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CONSTRUCTION DOCUMENTS
TEACHING DAIRY BARN EXPERIMENTAL ANAEROBIC DIGESTER ENABLING
CORNELL UNIVERSITY
ITHACA, NY 14850

KEY PLAN



DATE:	10/24/2025
PROJECT #:	19640.08
DRAWN BY:	DSU
CHECKED BY:	BRW
SCALE:	AS NOTED



1 ELECTRICAL SITE PLAN
SCALE: 1"=20'-0"

GENERAL NOTES:

- UTILIZE EMT RACEWAY WHEN ROUTING WITHIN THE CONDITIONED MANURE SEPARATION SHED MECHANICAL ROOM AND SCH. 40 PVC RACEWAY WHEN ROUTING OUTSIDE OF THE MECHANICAL ROOM WITHIN THE SHED.
- REFER TO DRAWING E-102 FOR ADDITIONAL UNDERGROUND CONDUIT THAT SHALL BE FURNISHED AND INSTALLED BY THIS CONTRACTOR FOR THE FUTURE CHOMP CONTROLS & GAS SCRUBBING (CCGS) SYSTEM.
- UTILIZE 2#12, 1#12 GND IN 1" FOR SITE LIGHTING BRANCH CIRCUITING.
- REFER TO "ELECTRIC EQUIPMENT AND CONTROL SCHEDULE" ON DRAWING E-500 FOR MECHANICAL EQUIPMENT POWER AND CONTROL REQUIREMENTS.
- REFER TO DETAIL 5/E-500 FOR ELECTRICAL UNDERGROUND DUCTBANK REQUIREMENTS.
- PROVIDE HANDHOLES WHERE SHOWN. ALL HANDHOLES SHALL BE TRAFFIC RATED (H-20).
- ALL EXTERIOR RACEWAYS ENTERING A BUILDING ABOVE GRADE SHALL TRANSITION FROM PVC TO RGS CONDUIT BEFORE EXITING GROUND. REFER TO DETAIL 3/E-500 FOR ADDITIONAL REQUIREMENTS.

KEYED NOTES:

- PROVIDE 120V BRANCH CIRCUIT, FED FROM SPARE 20A-1P CIRCUIT BREAKER (CKT. 21) IN PANELBOARD 'RP4', TO A NEW BMS CONTROL PANEL IN THE MANURE SEPARATION SHED MECHANICAL ROOM.
- PROVIDE CAT 6A DATA OUTLET CONSISTING OF ONE (1) DATA JACK AND ONE (1) CAT 6A OSP CABLE, ROUTED IN 1" C, BACK TO PATCH PANEL IN NEW OUTDOOR IDF ENCLOSURE FOR NEW BMS CONTROL PANEL.
- PROVIDE 480/277V, 3-PHASE, FEEDER TO LOCATION OF FUTURE CCGS PLATFORM. RACEWAY SHALL BE STUBBED UP 24" ABOVE GRADE AT THE LOCATION SHOWN AND THE CONTRACTOR SHALL PROVIDE A MINIMUM OF 30-FEET OF COILED CONDUCTORS TO ALLOW FOR FINAL TERMINATIONS TO THE CCGS PLATFORM BY A FUTURE CONTRACTOR. REFER TO PARTIAL ONE-LINE DIAGRAM (1/E-500) FOR 3-PHASE FEEDER REQUIREMENTS.
- LOCATE MANUAL MOTOR CONTROLLERS WITH RELAYS FOR UNIT HEATERS WITHIN MANURE SEPARATION SHED MECHANICAL ROOM. COORDINATE EXACT LOCATIONS WITH EXISTING EQUIPMENT WITHIN MECHANICAL ROOM.
- PROVIDE NEMA 3R TOGGLE SWITCH ON EXTERIOR OF BUILDING TO ALLOW FOR MANUAL CONTROL OF NEW POLE MOUNTED LUMINAIRES. LUMINAIRES WILL BE PROVIDED WITH INTEGRAL PHOTOCELLS TO KEEP LUMINAIRES OFF IF ENOUGH SUNLIGHT IS PRESENT.
- PROVIDE NEW SITE LIGHTING LUMINAIRES AND ASSOCIATED POLES & POLE BASES. LUMINAIRES SHALL BE FED FROM A NEW 20A-1P CIRCUIT BREAKER (CKT. 9) IN PANELBOARD 'RP4', PROVIDE CIRCUIT BREAKER TO MATCH EXISTING PANELBOARD CONSTRUCTION (GE A-SERIES II) AND KAIC RATING. REFER TO DETAIL 2/E-500 FOR POLE BASE REQUIREMENTS.
- PROVIDE 120V BRANCH CIRCUIT FOR NEW WATER PIPING HEAT TRACE. HEAT TRACE SHALL BE FED FROM A NEW 20A-1P, 30 mA trip, GROUND FAULT EQUIPMENT PROTECTION (GFPE) TYPE BREAKER (CKT. 10) IN PANELBOARD 'RP4', PROVIDE CIRCUIT BREAKER TO MATCH EXISTING PANELBOARD CONSTRUCTION (GE A-SERIES II) AND KAIC RATING.
- PROVIDE GROUND GRID AROUND FUTURE CCGS PLATFORM CONSISTING OF TWO (2) 5/8" DIA X 8'-0" GROUND RODS AND BARE #4/0 GROUND WIRE. PROVIDE STUBBED-UP RACEWAYS AT THE LOCATIONS SHOWN (24" ABOVE GRADE) WITH A MINIMUM OF 30-FEET OF COILED WIRE TO ALLOW FOR FINAL TERMINATIONS TO THE CCGS PLATFORM BY A FUTURE CONTRACTOR. THE GROUND WIRE STUB-UP ADJACENT TO THE CCGS 3-PHASE FEEDER SHALL BE USED TO GROUND THE CCGS PANELBOARD, WHILE THE GROUND STUB-UP ON THE OPPOSITE SIDE OF THE PLATFORM SHALL BE USED TO BOND THE PLATFORM ITSELF TO GROUND.
- PROVIDE A SINGLE CAT 6A OUTSIDE PLANT (OSP) DATA CABLE, ROUTED IN A 2" C RACEWAY, FROM PATCH PANEL IN NEW OUTDOOR IDF ENCLOSURE TO LOCATION OF FUTURE CCGS PLATFORM. RACEWAY SHALL BE STUBBED UP 24" ABOVE GRADE AT THE LOCATION SHOWN AND THE CONTRACTOR SHALL PROVIDE A MINIMUM OF 30-FEET OF COILED DATA CABLE TO ALLOW FOR FINAL TERMINATIONS TO THE CCGS PLATFORM BY A FUTURE CONTRACTOR.
- INSTALL NEW OUTDOOR IDF ENCLOSURE AND ASSOCIATED UPS ENCLOSURE (BOTH FURNISHED BY CORNELL CIT) ON EXTERIOR OF MANURE SEPARATION SHED. PROVIDE COMMON 120V BRANCH CIRCUIT TO FEED BOTH THE IDF ENCLOSURE AND UPS ENCLOSURE. CIRCUIT SHALL BE FED FROM A NEW 20A-1P CIRCUIT BREAKER (CKT. 8) IN PANELBOARD 'RP4', PROVIDE CIRCUIT BREAKER TO MATCH EXISTING PANELBOARD CONSTRUCTION (GE A-SERIES II) AND KAIC RATING. CORNELL CIT WILL FURNISH AND INSTALL ALL REQUIRED FIBER OPTIC CABLES FROM THE EXISTING BDF IN THE MILKING PARLOR MECHANICAL ROOM TO THE NEW OUTDOOR IDF.
- PROVIDE CAT 6A DATA OUTLET CONSISTING OF ONE (1) DATA JACK AND ONE (1) CAT 6A CABLE, ROUTED IN 1" C, BACK TO PATCH PANEL IN EXISTING BDF RACK IN MILKING PARLOR MECHANICAL ROOM FOR NEW BMS CONTROL PANEL.
- PROVIDE 120V BRANCH CIRCUIT, FED FROM SPARE 20A-1P CIRCUIT BREAKER (CKT. 84) IN PANELBOARD 'RP1', TO A NEW BMS CONTROL PANEL IN THE MILKING PARLOR MECHANICAL ROOM.
- NEW 120V GAS-FIRED WATER HEATER 'DWH-2' SHALL PLUG INTO EXISTING DUPLEX RECEPTACLE LEFT AFTER REMOVAL OF PREVIOUS PLUG-IN GAS-FIRED DOMESTIC WATER HEATERS IN MILKING PARLOR MECHANICAL ROOM. CONTRACTOR SHALL PROVIDE 12/3 SJO CORD WITH NEMA 5-15 PLUG AND WIRE TO NEW WATER HEATER.
- PROVIDE NEW CAT 6A OSP CABLE FROM EXISTING SAND WASHING CONTROLLER TO PATCH PANEL IN NEW OUTDOOR IDF ENCLOSURE. CORNELL CIT SHALL REMOVE EXISTING DATA CABLE CONNECTED TO CONTROLLER AND ASSIST IN CONNECTION OF NEW CABLE.
- PROVIDE 2#12, 1#12 GND IN 3/4" (RGS) FROM UPS IN UPS ENCLOSURE TO PRE-INSTALLED RECEPTACLE IN IDF ENCLOSURE.



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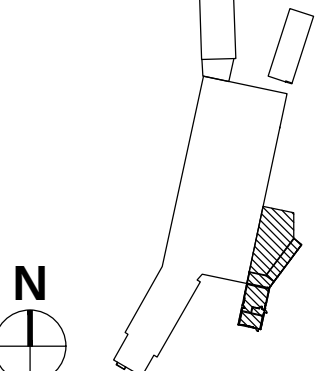
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CORNELL UNIVERSITY
ITHACA, NY 14850

KEY PLAN



DATE:	10/24/2025
PROJECT #:	19640.08
DRAWN BY:	DSU
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SCALE:	AS NOTED

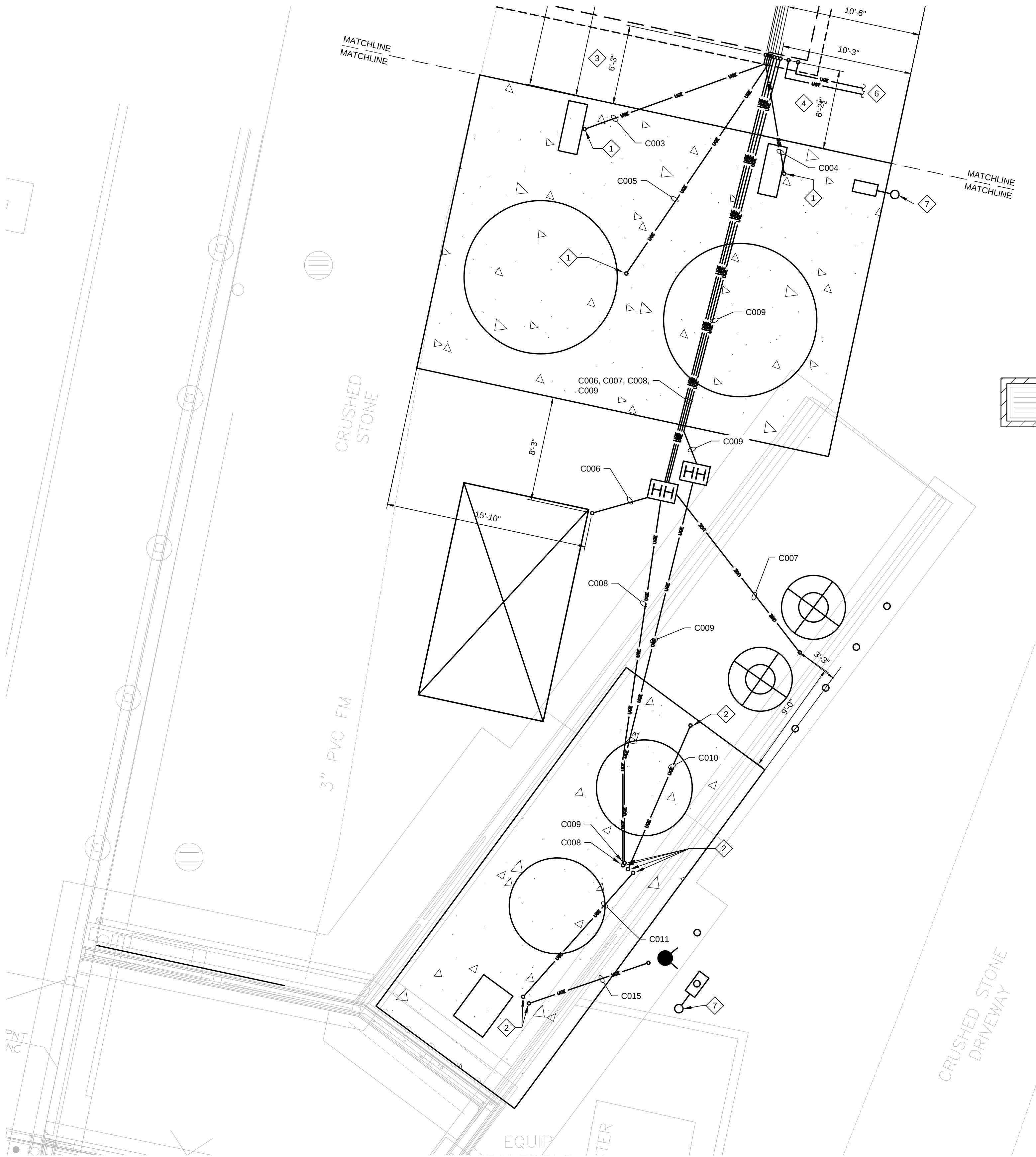
VERIFY SCALE

BAR IS ONE (1) INCH LONG ON ORIGINAL DRAWING:



IF BAR IS NOT ONE (1) INCH LONG, ADJUST SCALE ACCORDINGLY

ELECTRICAL
SITE PLAN



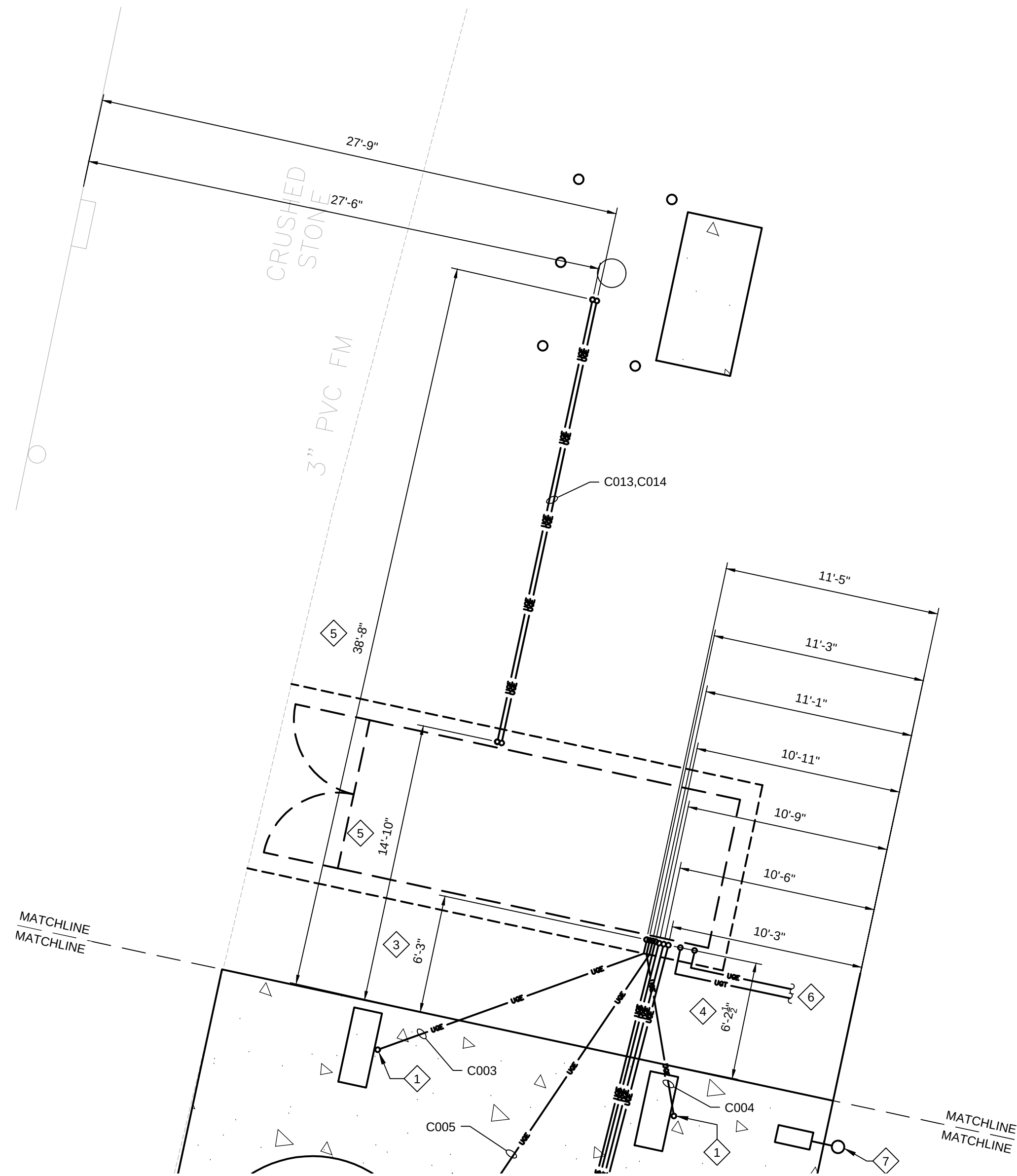
1 ELECTRICAL PROCESS CONDUIT PLAN
SCALE: 1"=5'-0"

GENERAL NOTES:

- G1. PROVIDE HANDHOLES WHERE SHOWN. ALL HANDHOLES SHALL BE TIER 22 RATED.
- G2. ALL STUBBED-UP CONDUITS SHALL BE CAPPED AND PROVIDED WITH PULLSTRING FOR FUTURE USE.
- G3. ALL UNDERGROUND CONDUITS SHALL BE DIRECT BURIED. REFER TO DETAIL 5/E-500 "TYPICAL DUCTBANK DETAIL" FOR ADDITIONAL REQUIREMENTS.

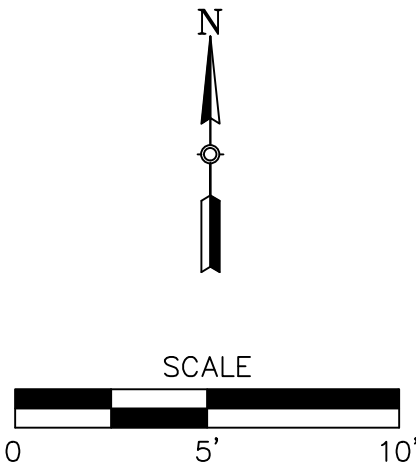
KEYED NOTES:

1. REFER TO DRAWING S-101 FOR EXACT STUB-UP LOCATION WITHIN CONCRETE PAD.
2. REFER TO DRAWING S-102 FOR EXACT STUB-UP LOCATION WITHIN CONCRETE PAD.
3. MEASUREMENT APPLIES TO RACEWAYS C003, C004, C005 & C006.
4. MEASUREMENT APPLIES TO RACEWAYS C007, C008 & C009.
5. MEASUREMENT APPLIES TO BOTH RACEWAYS C013 & C014.
6. REFER TO DRAWING E-101 FOR CONTINUATION OF INCOMING POWER FEEDER AND TELECOMMUNICATION RACEWAYS FOR FUTURE CCGS PLATFORM.
7. REFER TO DRAWING E-101 FOR SITE LIGHTING AND ASSOCIATED RACEWAY REQUIREMENTS.



2 ELECTRICAL PROCESS CONDUIT PLAN
SCALE: 1"=5'-0"

UNDERGROUND ELECTRICAL PROCESS CONDUIT SCHEDULE					
RACEWAY ID	SCHEDULE & MATERIAL	NOMINAL SIZE	FUTURE CONTENTS	BURIAL DEPTH	STUB-UP HEIGHT
C003	SCH. 40 PVC CONDUIT	3/4"	CONDUCTOR(S)	SEE C-104	24"
C004	SCH. 40 PVC CONDUIT	3/4"	CONDUCTOR(S)	SEE C-104	24"
C005	SCH. 40 PVC CONDUIT	3/4"	SIGNAL WIRE	SEE C-104	24"
C006	SCH. 40 PVC CONDUIT	3/4"	CONDUCTOR(S)	SEE C-104	24"
C007	SCH. 40 PVC CONDUIT	1"	CONDUCTOR(S)	SEE C-104	24"
C008	SCH. 40 PVC CONDUIT	1-1/2"	CONDUCTOR(S)	SEE C-104	24"
C009	SCH. 40 PVC CONDUIT	3/4"	SIGNAL WIRE	SEE C-104	24"
C010	SCH. 40 PVC CONDUIT	3/4"	CONDUCTOR(S)	SEE C-104	24"
C011	SCH. 40 PVC CONDUIT	1"	CONDUCTOR(S)	SEE C-104	24"
C013	SCH. 40 PVC CONDUIT	3/4"	CONDUCTOR(S)	SEE C-104	24"
C014	SCH. 40 PVC CONDUIT	3/4"	SIGNAL WIRE	SEE C-104	24"
C015	SCH. 40 PVC CONDUIT	3/4"	CONDUCTOR(S)	SEE C-104	24"



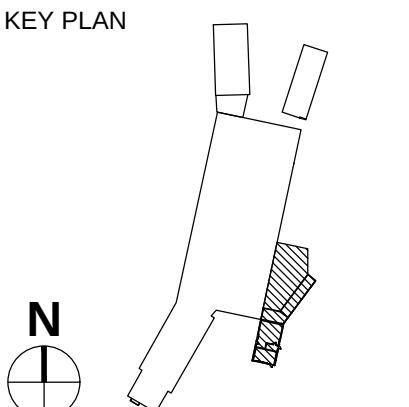
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0 1

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ELECTRICAL
PROCESS CONDUIT
PLAN

[illegible]

LUMINAIRE SCHEDULE															
TYPE	DESIGN MAKE	DESCRIPTION	HOUSING	REFLECTOR/LENS	HOUSING/ REFLECTOR FINISH	MOUNTING	LAMP TYPE	COLOR TEMPERATURE	CRI	LUMEN OUTPUT	FIXTURE WATTAGE (WATT)	EFFICIENCY (LUMEN/ WATT)	DIMMING TYPE (DOWN TO %)	VOLTAGE (VOLTS)	NOTES
LA	LEOTEK #ARIETA 13	POLE MOUNTED LED SITE LUMINAIRE WITH TYPE 5 DISTRIBUTION AND INTEGRAL PHOTOCCELL. SHALL BE INTERNATIONAL DARK SKY ASSOCIATION LISTED.	DIE-CAST ALUMINUM	ACRYLIC	BLACK	POLE	LED	3000K	>70	9,930	72	138	--	120	1
NOTES:															
1. PROVIDE WITH 16-FOOT SQUARE, ALUMINUM POLE WITH FINISH TO MATCH LUMINAIRE.															



- 1 PARTIAL ONE-LINE DIAGRAM**
SCALE: N.T.S.

