

VICINITY MAP  
NOT TO SCALE  
north



AERIAL PHOTO  
NOT TO SCALE  
north

# 390 NE ALICE'S ROAD WAUKEE IA 50263 DES MOINES DATA CENTER

## PROJECT SUMMARY

THE PROJECT IS A 32,000 SF WEST BUILDING ADDITION, ALONG WITH A 1,900 SF EAST BUILDING ADDITION. THE WEST ADDITION CONTAINS A DATA HALL, TWO MECHANICAL GALLERIES, FOUR ELECTRICAL ROOMS, A DOCK & STORAGE AREA, CARRIER ROOM, TWO TELECOM ROOMS, UNISEX RESTROOM, AND A CONFERENCE ROOM. THE EAST ADDITION CONTAINS AN OPEN OFFICE AREA, CONFERENCE ROOM, PRIVATE OFFICES, AND EXPANDED RESTROOMS, NEW MECHANICAL AND ELECTRICAL EQUIPMENT AND INFRASTRUCTURE WILL BE INCLUDED, SUCH AS GENERATORS, PANELS, CRAC UNITS, AND OTHER HVAC EQUIPMENT. ADDITIONALLY, SITE WORK INCLUDES LANDSCAPE SCREENING AND TREE/SHRUB PLANTING.

## GENERAL PROJECT INFORMATION

OWNER: US SIGNAL  
 AUTHORITY HAVING JURISDICTION: CITY OF WAUKEE, IOWA  
 BUILDING: 2024 INTERNATIONAL BUILDING CODE, 2018 INTERNATIONAL EXISTING BUILDING CODE  
 ELECTRICAL: 2023 NATIONAL ELECTRICAL CODE  
 PLUMBING: 2024 UNIFORM PLUMBING CODE  
 MECHANICAL: 2024 INTERNATIONAL MECHANICAL CODE  
 ENERGY: 2012 INTERNATIONAL ENERGY CONSERVATION CODE (IECC)  
 FIRE: 2024 INTERNATIONAL FIRE CODE  
 FUEL: 2024 INTERNATIONAL FIRE CODE  
 ACCESSIBILITY: ICC A117.1-2017 ACCESSIBLE AND USABLE BUILDINGS & FACILITIES

## CODE ANALYSIS

TYPE OF CONSTRUCTION: IIB-PARTIALLY SPRINKLERED  
 TYPE OF OCCUPANCY: GROUP B AND GROUP S - (TELECOMMUNICATIONS)

## SHEET INDEX

SHEET NUMBER	SHEET TITLE
<b>GENERAL</b>	
G-001	COVER SHEET
<b>CIVIL</b>	
C-200	SITE PLAN
C-300	GRADING AND DRAINAGE PLAN
C-301	GRADING AND DRAINAGE PLAN
C-400	UTILITY PLAN
C-500	SWPP PLAN
C-501	SWPP PLAN
C-502	SWPP DETAILS
C-600	DETAILS
C-601	DETAILS
C-602	DETAILS
C-603	DETAILS
C-604	DETAILS
C-605	DETAILS
C-606	DETAILS
<b>LANDSCAPE</b>	
TPP-100	TREE PROTECTION PLAN
TPP-101	TPP DETAILS & SCHEDULE
L-100	LANDSCAPE PLAN
L-101	LANDSCAPE DETAILS
<b>ELECTRICAL</b>	
E-101	SITE LIGHTING PLAN

## CONTACTS

OWNER'S REPRESENTATIVE:  
 TOM DeJONGE  
 201 IONIA AVE SW,  
 GRAND RAPIDS, MI - 49503  
 PHONE: 616-233-7137

PROJECT MANAGER (ETZEL):  
 JORDAN COGLEY  
 PHONE: (412) 638-8138  
 EMAIL: JCOGLEY@ETZELENGBLD.COM

EXP US SERVICES, INC.  
 27777 FRANKLIN ROAD,  
 SUITE 1510  
 SOUTHFIELD, MI 48034

PROJECT MANAGER (EXP):  
 ASHLEY ARMBRUSTMACHER  
 PHONE: (248) 351-8214  
 EMAIL: ASHLEY.ARGBRUSTMACHER@EXP.COM

CIVIL:  
 NICHOLAS KARPATHY  
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 EMAIL: NICHOLAS.KARPATHY@EXP.COM

ARCHITECTURAL:  
 MATTHEW VOGT  
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 EMAIL: MATTHEW.VOGT@EXP.COM

STRUCTURAL:  
 MICHAEL GRIFFITH  
 PHONE: (804) 474-4582  
 EMAIL: MGRIFITH@PAULIFORD.COM

MECHANICAL:  
 RICHARD STALNAKER  
 PHONE: (804) 474-4562  
 EMAIL: RICHARD.STALNAKER@EXP.COM

ELECTRICAL:  
 MICHELLE STAFFAN  
 PHONE: (614) 744-4324  
 EMAIL: MICHELLE.STAFFAN@EXP.COM

312-REFERENCE IMAGES/US/Signal/Background



SEAL

THESE DRAWINGS  
 ARE FOR DESIGN  
 PURPOSES AND  
 ARE NOT  
 INTENDED FOR  
 CONSTRUCTION

DES MOINES DATA CENTER

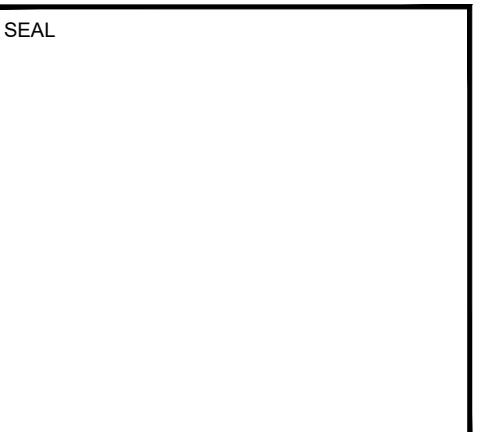
US Signal  
 390 NE Alice's Road  
 Waukee, IA 50263

NO.	DATE	REVISION
08/26/25		SITE PLAN REVIEW
09/23/25		SITE PLAN 2ND REVIEW
010/22/25		SITE PLAN 3RD REVIEW

PROJECT NUMBER: RUS-25008152-A0  
 PROJECT DATE: -  
 DRAWN BY: MV  
 CHECKED BY: AA  
 SCALE: AS SHOWN

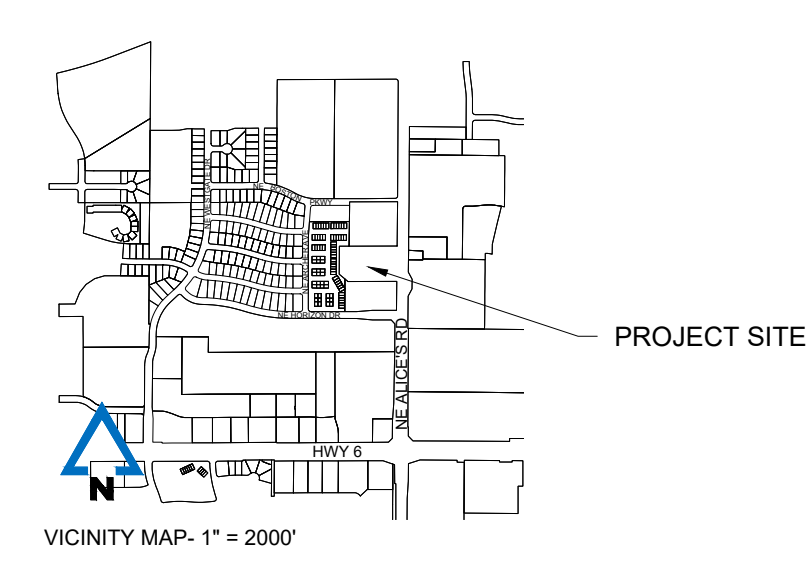
DRAWING TITLE  
 GENERAL  
 COVER SHEET

DRAWING NUMBER  
 G-001



**DES MOINES DATA CENTER**

**US Signal**  
300 NE Alice's Road  
Waukee, IA 50263



**LEGAL DESCRIPTION**

LOT 1, THE CROSSING AT ALICE'S ROAD PLAT 3, AN OFFICIAL PLAT RECORDED IN BOOK 2008, PAGE 11626, AT THE DALLAS COUNTY RECORDERS OFFICE, CITY OF WAUKEE, DALLAS COUNTY, IOWA AND CONTAINING 5.000 ACRES (217,800 S.F.) MORE OR LESS.

**ADDRESS**

390 NE ALICE'S ROAD, WAUKEE, IOWA 50263

**OWNER/DEVELOPER/APPLICANT**

US SIGNAL  
201 IOWA AVE SW  
GRAND RAPIDS, MI 49503  
(616) 274-4625

ETZEL DESIGN AND BUILD  
PROJECT MANAGER: JORDAN COGLEY  
205 WEST WATER STREET  
SAKONBURG, IA 50606  
(724) 524-1280

EXP U.S. SERVICES  
27177 FRANKLIN ROAD,  
SUITE 1510  
SOUTHFIELD, MI 48034  
(248) 351-6200

**SITE DATA**

ADDRESS: 390 NE ALICE'S RD, WAUKEE, IA 50263  
 ADDRESS NUMBER: 122740302  
 OWNER: US SIGNAL  
 ZONING: OFFICE PARK COMMERCIAL DISTRICT (C-4)  
 PROPOSED USE: COMBINATION OF OFFICE & WAREHOUSE  
 FUTURE LAND USE: BUSINESS PARK  
 ADJACENT ZONING: (N) C-1 (NW) R-4, (W) R-4, (E) CITY OF CLIVE RESIDENTIAL; (S) R-3  
 SITE AREA: 217,800 SF (2.06 AC)  
 PROJECT AREA: 217,800 SF (2.06 AC)

IMPERVIOUS / OPEN SPACE / (OPEN SPACE %)  
 EXISTING: 1.38 AC (3.72 AC) (17%)  
 PROPOSED: 2.65 AC (2.35 AC) (47%)  
 REQUIRED OPEN SPACE: 25%

**BUILDING AREAS - HEIGHTS:**

EX. OFFICE BUILDING (1-STORY)	HEIGHT	MAX ALLOWABLE HEIGHT
EX. OFFICE BUILDING (1-STORY) = 3,308 SF*	16'	40'
EX. WAREHOUSE (1-STORY) = 16,127 SF*	22'	40'
EX. TOTAL = 19,435*		
PROP. OFFICE (1-STORY) = 2,145 SF	16'	40'
PROP. WAREHOUSE (1-STORY) = 31,377 SF	22'	40'
TOTAL = 52,957		

**REQUIRED YARD SETBACKS:**

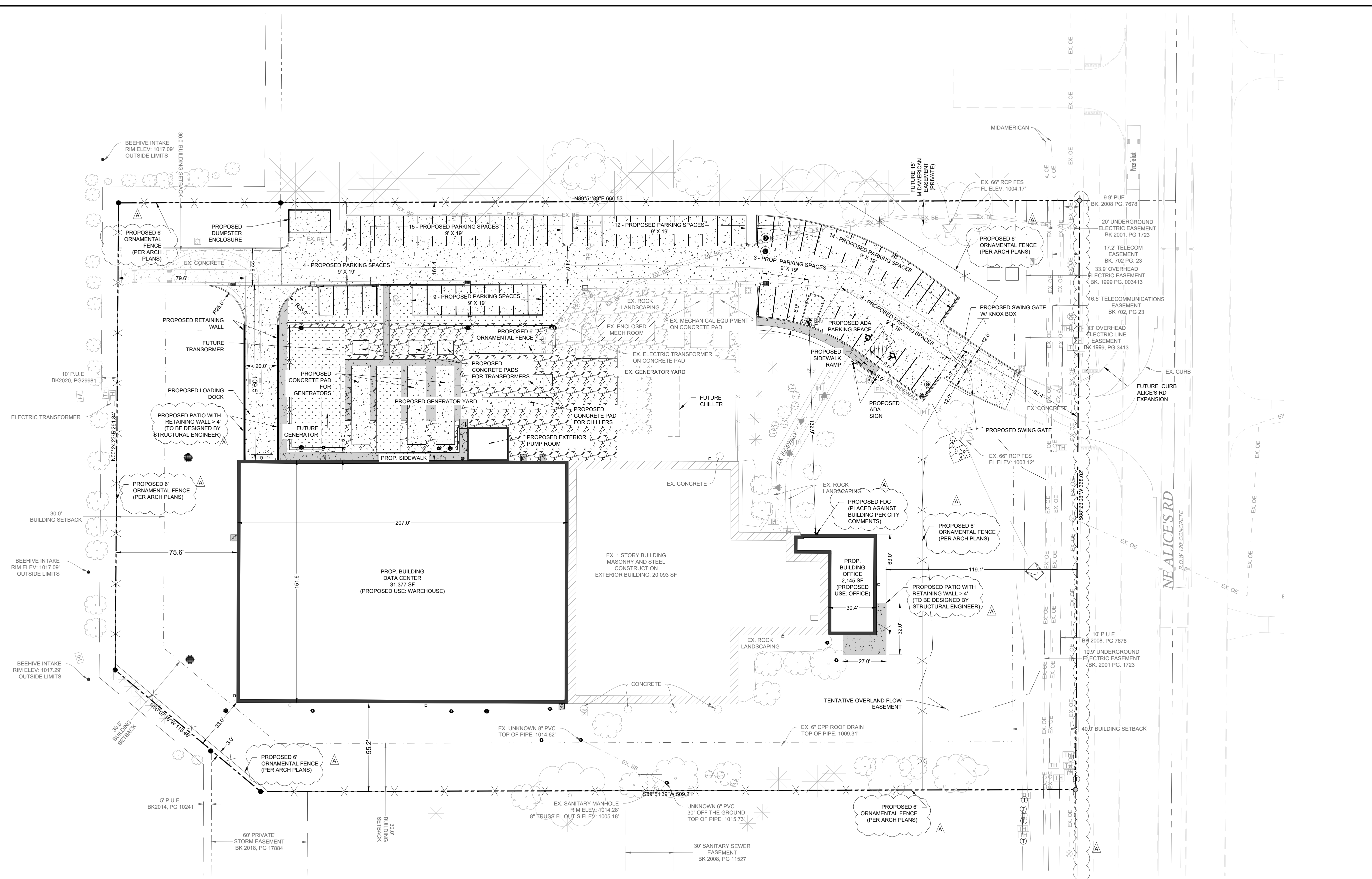
LOCATION	REQUIRED	PROVIDED
FRONT YARD (E)	40'	125.1'
SIDE YARD (N) ADJACENT TO 'R' ZONING	30'	161.1'
SIDE YARD (N)	0'	161.4'
SIDE YARD (S)	30'	55.2'
SIDE YARD (SW)	30'	33.0'
REAR YARD (W)	30'	75.6'

**VEHICLE PARKING:**

USE	SPACES REQ'D (PER SF)	SPACES REQ'D (PER EMPLOYEE)	BUILDING AREA (SF)	EMPLOYEES	TOTAL # OF SPACES REQ'D
OFFICE	3 / 1,000	N/A	5,453 SF	0	17
WAREHOUSE	1 / 1,000	1 / 2	47,504 SF	65	48
TOTAL REQUIRED					65
EX. PARKING SPACES TO REMAIN					30
PROP. PARKING SPACES					35
TOTAL PROVIDED					65

PROP. PARKING SPACE TYPES:  
 ACCESSIBLE SPACES = 2  
 STANDARD SPACES = 63  
 TOTAL VEHICLE SPACES = 65

\*US SIGNAL WILL PROVIDE THE CITY OF WAUKEE WITH A PROJECTED EMPLOYEE AND STAFFING PLAN.

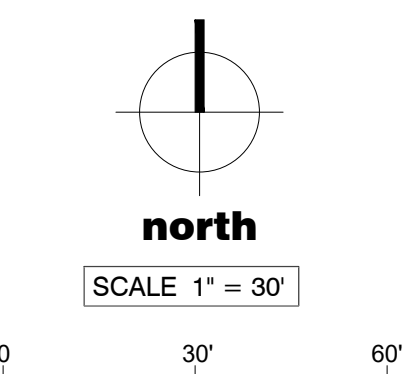


**SITE PLAN LEGEND**

- PROPERTY LINE
- - - EASEMENT
- BUILDING SETBACK
- EXISTING ROAD CENTERLINE
- EXISTING FENCE
- EXISTING BOLLARD
- EXISTING FLOOD LIGHT
- EXISTING MAILBOX
- EXISTING SIGN- SINGLE POST
- EXISTING LIGHT WITH CONCRETE BASE
- EXISTING UTILITY POLE
- EXISTING BENCHMARK
- EXISTING MONUMENT FOUND (FIRST TYPE)
- EXISTING SANITARY SEWER MANHOLE
- EXISTING BEEHIVE INTAKE (SIZE VARIES)
- EXISTING DRAINAGE INTAKE
- EXISTING SINGLE CURB INTAKE
- EXISTING STORM SEWER MANHOLE
- EXISTING TELECOM HANDHOLE
- EXISTING TELECOM MANHOLE
- EXISTING CONIFEROUS TREE (SIZE VARIES)
- EXISTING DECIDUOUS TREE (SIZE VARIES)
- EXISTING SHRUB (SIZE VARIES)
- EXISTING FIRE HYDRANT
- EXISTING IRRIGATION HANDHOLE
- EXISTING WATER VALVE
- EXISTING ELECTRIC HANDHOLE
- PROPOSED CONCRETE SIDEWALK
- PROPOSED CONCRETE PAVEMENT
- PROPOSED GRAVEL
- PROPOSED LANDSCAPING
- PROPOSED FENCE
- PROPOSED SIGN
- PROPOSED STORM INLET
- PROPOSED DRAINAGE MANHOLE
- PROPOSED LIGHT POLE
- PROPOSED FDC

**GENERAL NOTES**

- CONTRACTOR SHALL MAKE ARRANGEMENTS FOR THE PROPER BRACING, SHORING AND OTHER REQUIRED PROTECTION OF ALL ROADWAYS AND EXCAVATIONS BEFORE CONSTRUCTION BEGINS.
- IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY THE EXISTING CONDITION INCLUDING BUT NOT LIMITED TO, THE PROPERTY BOUNDARY, THE BENCHMARK, EXISTING BUILDING, PAVEMENT AND GROUND ELEVATIONS AND UTILITY HORIZONTAL AND VERTICAL LOCATIONS BEFORE THE START OF CONSTRUCTION.
- CONTRACTOR SHALL REPAIR AND REPLANT ANY EXISTING GRASS OR SOIL THAT IS DISTURBED BY CONSTRUCTION ACTIVITY.
- LOCATIONS OF ALL UTILITY LINES TO BE FIELD VERIFIED WITHIN AREA OF WORK. CONTRACTOR TO NOTIFY OWNER/ENGINEER OF ANY DISCREPANCIES.
- CONTRACTOR SHALL OBTAIN ALL NECESSARY JURISDICTIONAL PERMITS AND APPROVALS PRIOR TO CONSTRUCTION BEGINNING.
- THE TOPOGRAPHIC SURVEY WAS PROVIDED BY MCCLURE, JOB NO. 202501453-000, DATED 09/10/2025. THESE IMPROVEMENT PLANS DO NOT WARRANT THE ACCURACY OF THE PROVIDED SURVEY.
- BASES OF BEARINGS ARE BASED ON IOWA REGIONAL COORDINATE SYSTEM (RCS) - ZONE 8.
- THE GEOTECHNICAL REPORT WAS PROVIDED BY TERRACON, JOB NO. 05245197-01, DATED 08/02/2025. ACTUAL CONDITIONS OF SOILS, PAVEMENTS, ETC. MAY VARY FROM THIS REPORT. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CONFIRMING CONDITIONS FOUND IN THE FIELD AND REPORT VARIANCES FROM ASSUMPTIONS IN THE GEOTECHNICAL REPORT TO THE ENGINEER.
- VERTICAL DATUM ELEVATIONS ARE BASED ON THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD83).
- ALL WORK SHALL BE IN ACCORDANCE WITH 2025 CITY OF WAUKEE STANDARD SPECIFICATIONS AND 2025 IOWA SUDAS.
- REMOVE ALL DEBRIS AND MUD SPILLED INTO ROW AT THE END OF EACH WORK DAY AND PRIOR TO A RAIN EVENT.
- CONSTRUCTION MATERIALS AND EQUIPMENT SHALL NOT BE STORED IN THE RIGHT OF WAY.
- ALL STAKING, INCLUDING PEDESTRIAN FACILITIES, SHALL BE DONE UNDER THE DIRECTION OF A LICENSED ENGINEER OR SURVEYOR.

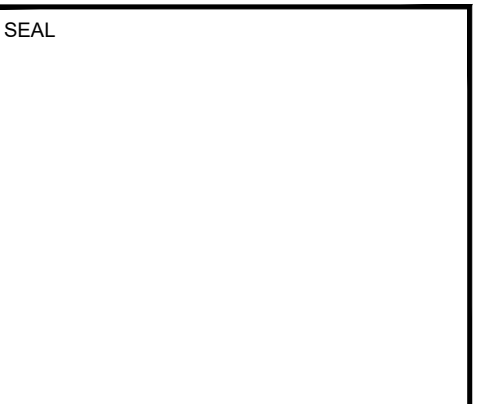


PRELIMINARY PLANS - NOT FOR CONSTRUCTION

NO.	DATE	REVISION
08/23/25	08/23/25	SITE PLAN REVIEW
09/23/25	09/23/25	SITE PLAN 2ND REVIEW

PROJECT NUMBER:	RUS-25008152-A0
PROJECT DATE:	09/23/25
DRAWN BY:	MMW
CHECKED BY:	NSK
SCALE:	AS SHOWN

DRAWING TITLE:	CIVIL SITE PLAN
DRAWING NUMBER:	C-200



**DES MOINES DATA CENTER**

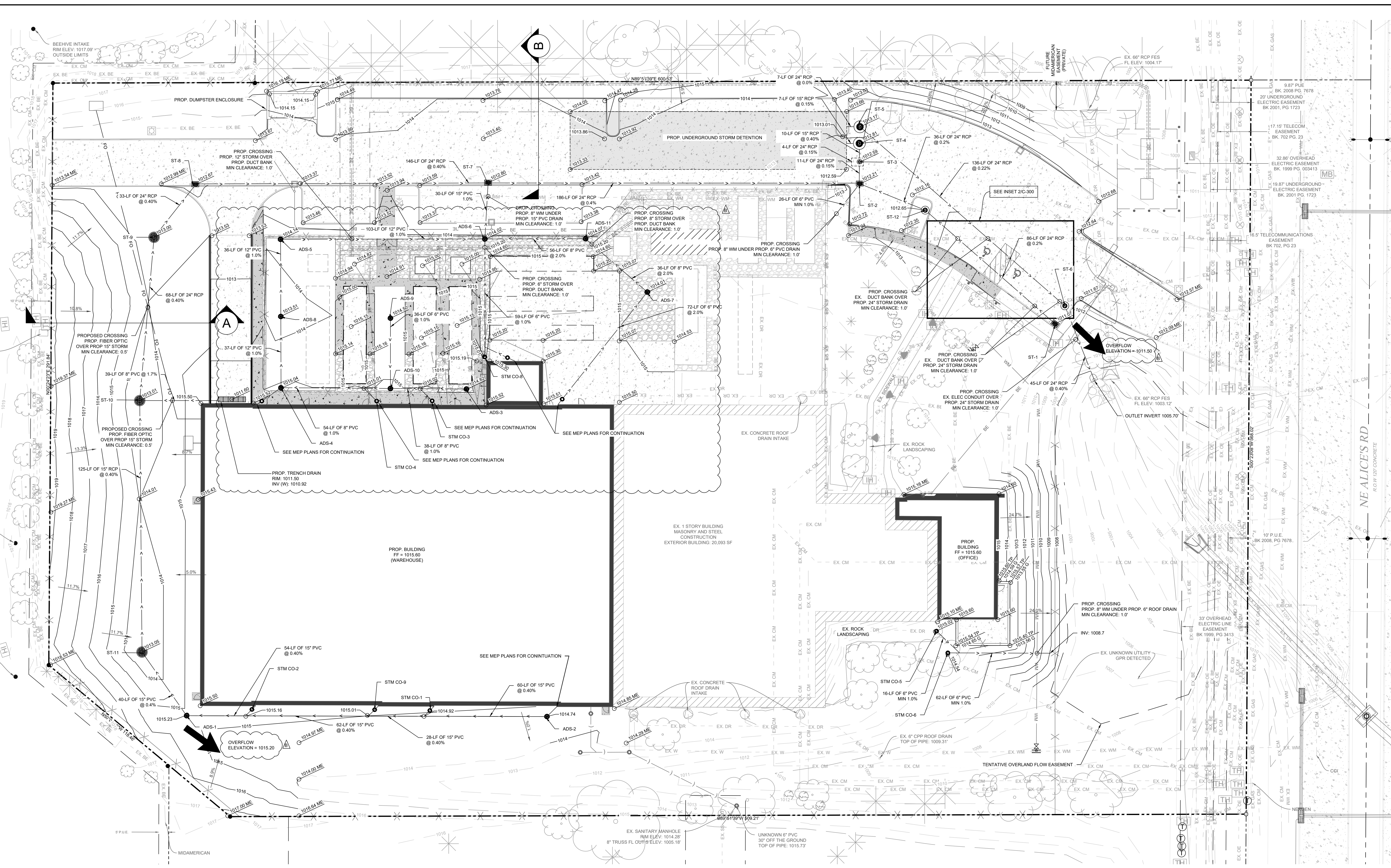
**US Signal**  
 300 NE Alice's Road  
 Waukee, IA 50263

NO.	DATE	REVISION
01/22/25	DD	ISSUE
09/25/25		SITE PLAN REVIEW
09/12/25		75% ISSUE
09/23/25		SITE PLAN 2ND REVIEW
10/10/25		BID ISSUE
10/22/25		SITE PLAN 3RD REVIEW

**PROJECT NUMBER:** RUS-25008152-A0  
**PROJECT DATE:** 10/22/25  
**DRAWN BY:** MMW  
**CHECKED BY:** NSK  
**SCALE:** AS SHOWN

**DRAWING TITLE:**  
 CIVIL  
 GRADING AND DRAINAGE PLAN

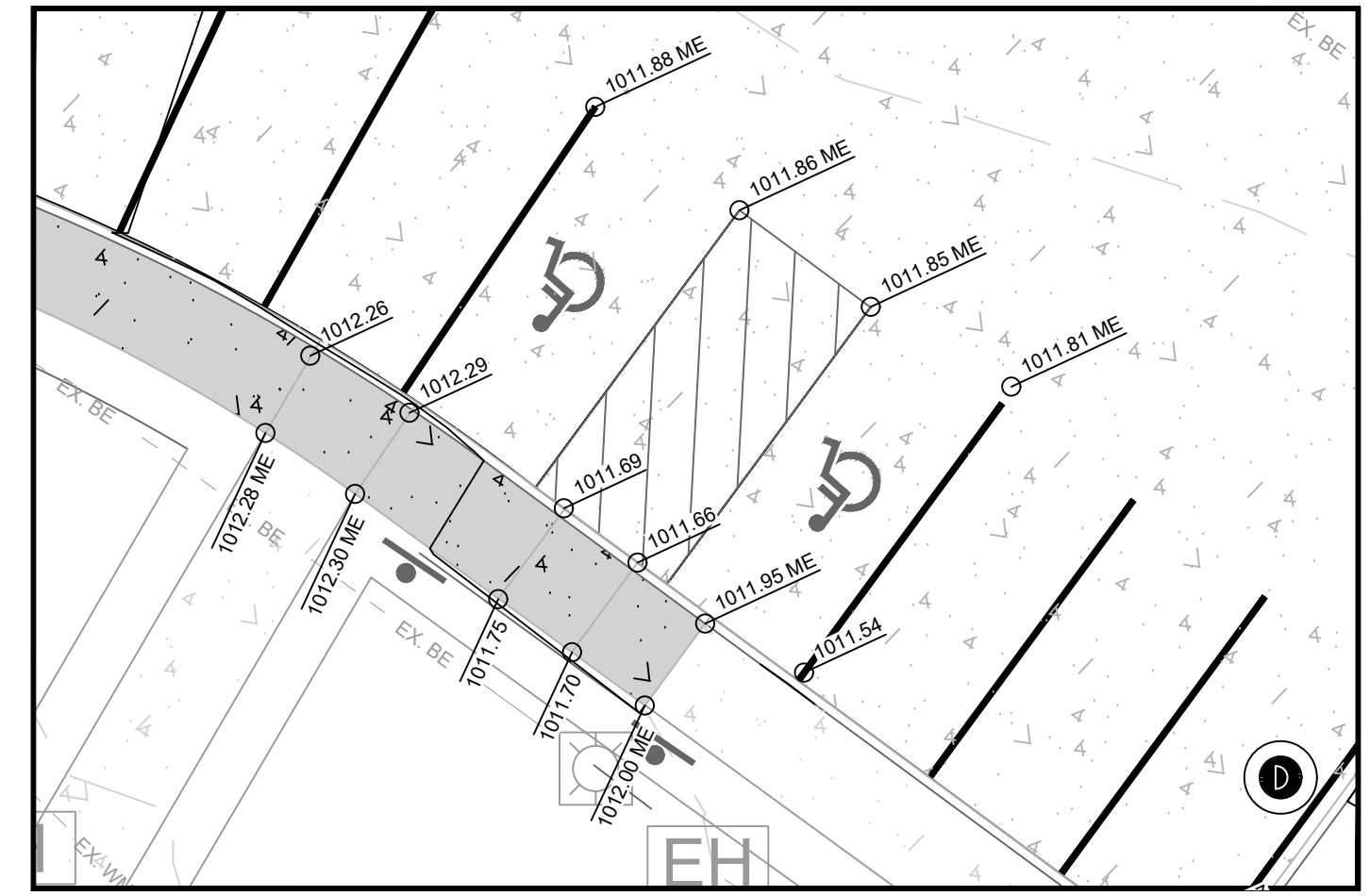
**DRAWING NUMBER:**  
 C-300



**1 GRADING AND DRAINAGE PLAN**  
 1" = 20'

**LEGEND**

	PROPERTY LINE		PROPOSED 12" ADS BASIN
	EASEMENT		PROPOSED UNDER DRAIN
	PROPOSED CONCRETE SIDEWALK		PROPOSED BURIED ELECTRIC
	PROPOSED CONCRETE PAVEMENT		PROPOSED FIBER OPTIC
	PROPOSED RIVER ROCK		PROPOSED OVERFLOW ARROW
	PROPOSED LANDSCAPING		
	PROPOSED FENCE		
	PROPOSED CONTOUR		
	PROPOSED WATER MAIN		
	PROPOSED SANITARY SERVICE		
	PROPOSED STORM PIPE		
	PROPOSED CLEAN OUT		
	PROPOSED SIGN		
	PROPOSED DRAINAGE MANHOLE		
	PROPOSED FDC		
	PROPOSED STORM INLET		



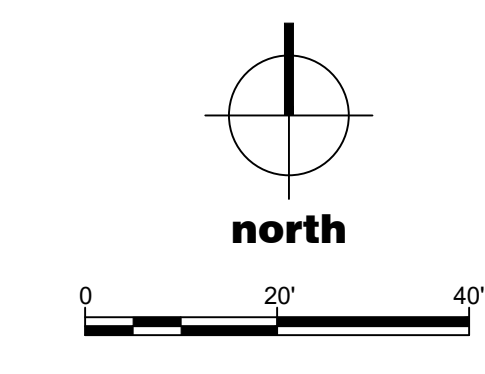
**2 GRADING AND DRAINAGE PLAN**  
 1" = 10'

**GRADING AND DRAINAGE NOTES**

1. THE MINIMUM FINISHED FLOOR ELEVATION OF ALL BUILDINGS AND CRITICAL EQUIPMENT PADS SHALL BE 1015.80 PER THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88).
2. ALL WALKS EXTERNAL TO THE BUILDING SHALL MEET ADA ACCESSIBILITY CRITERIA UNLESS OTHERWISE SPECIFICALLY NOTED NOT TO BE REQUIRED IN SPECIFIC AREAS OF THE PLAN VIEW.
3. PROPOSED SPOT ELEVATIONS REPRESENT FINISHED PAVEMENT OR GROUND SURFACE GRADE UNLESS OTHERWISE NOTED ON DRAWINGS.
4. EXISTING AND PROPOSED ELEVATION POINTS/CONTOURS/ETC. SHOWN ON PRINTED PLANS MAY NOT DIRECTLY REFLECT ALL DATA USED TO CONSTRUCT SAID FEATURES. REFER TO THE SURFACE OR DIGITAL ELEVATIONS MODEL FOR ADDITIONAL GRADING DETAILS AND DATA SOURCES.
5. ALL ELEVATIONS AND SURFACE WATER FLOW PATTERNS WITHIN THE PROJECT AREA ARE TO MATCH EXISTING UNLESS A SUB-AREA IS SPECIFICALLY NOTED OTHERWISE IN THE PLAN VIEW.
6. THE 100-YEAR 24-HOUR RAINFALL EVENT DOES NOT EXCEED RIM ELEVATIONS. THEREFORE, NO PONDING AREA BOUNDARY IS DEPICTED ON THE PLANS.
7. ALL WALKS EXTERNAL TO THE BUILDING SHALL MEET ADA ACCESSIBILITY CRITERIA UNLESS OTHERWISE SPECIFICALLY NOTED NOT TO BE REQUIRED IN SPECIFIC AREAS OF THE PLAN VIEW.
8. PROPOSED SPOT ELEVATIONS REPRESENT FINISHED PAVEMENT OR GROUND SURFACE GRADE UNLESS OTHERWISE NOTED ON DRAWINGS.
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10. ALL ELEVATIONS AND SURFACE WATER FLOW PATTERNS WITHIN THE PROJECT AREA ARE TO MATCH EXISTING UNLESS A SUB-AREA IS SPECIFICALLY NOTED OTHERWISE IN THE PLAN VIEW.
11. UNDERGROUND STORAGE DETENTION:
  - 11.1. INTERNAL CAPACITY: 294.18 CU FT
  - 11.2. TOP ELEVATION: 1011.95 FT
  - 11.3. BOTTOM ELEVATION: 1006.50 FT

**GENERAL NOTES**

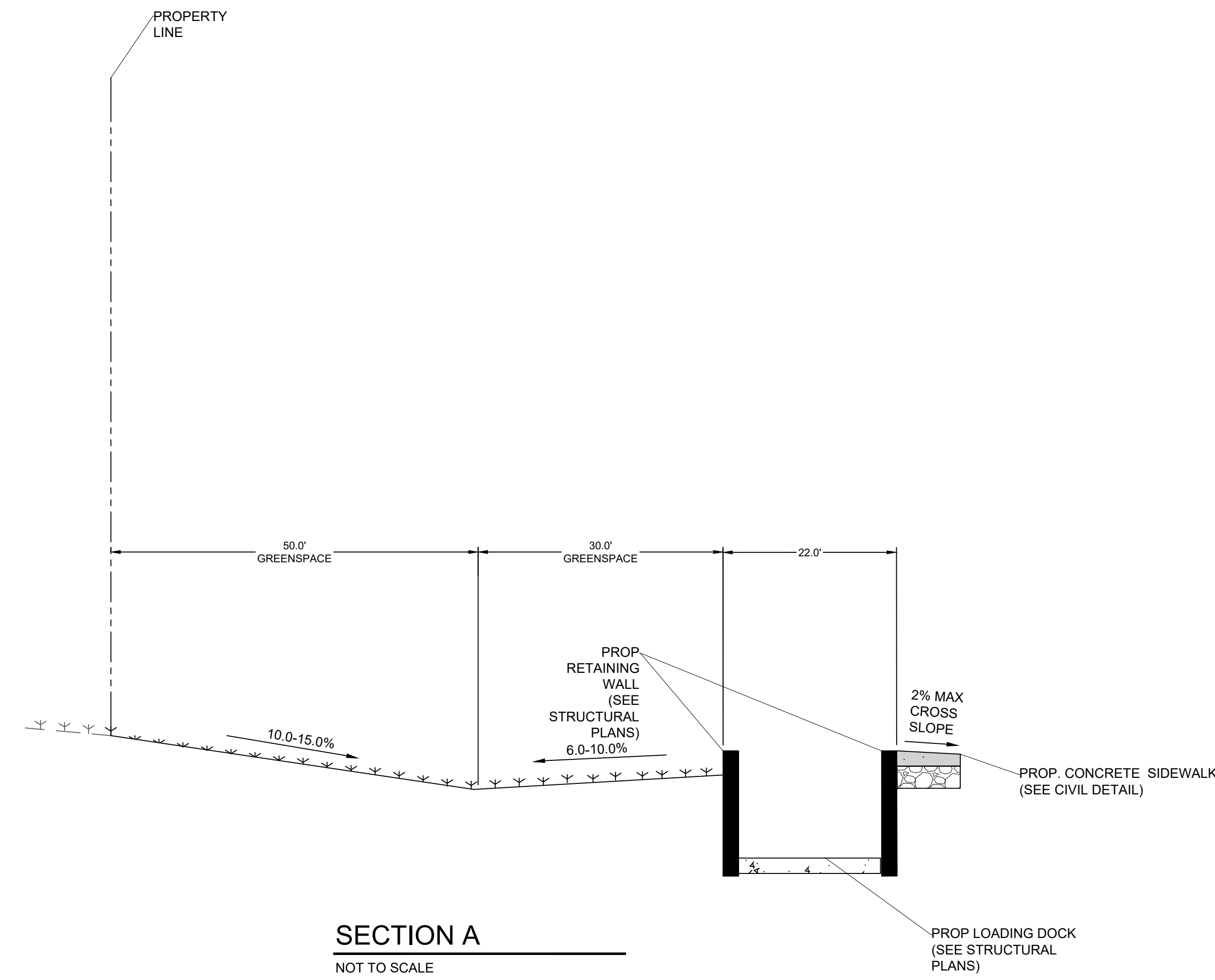
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8. VERTICAL DATUM ELEVATIONS ARE BASED ON THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88).



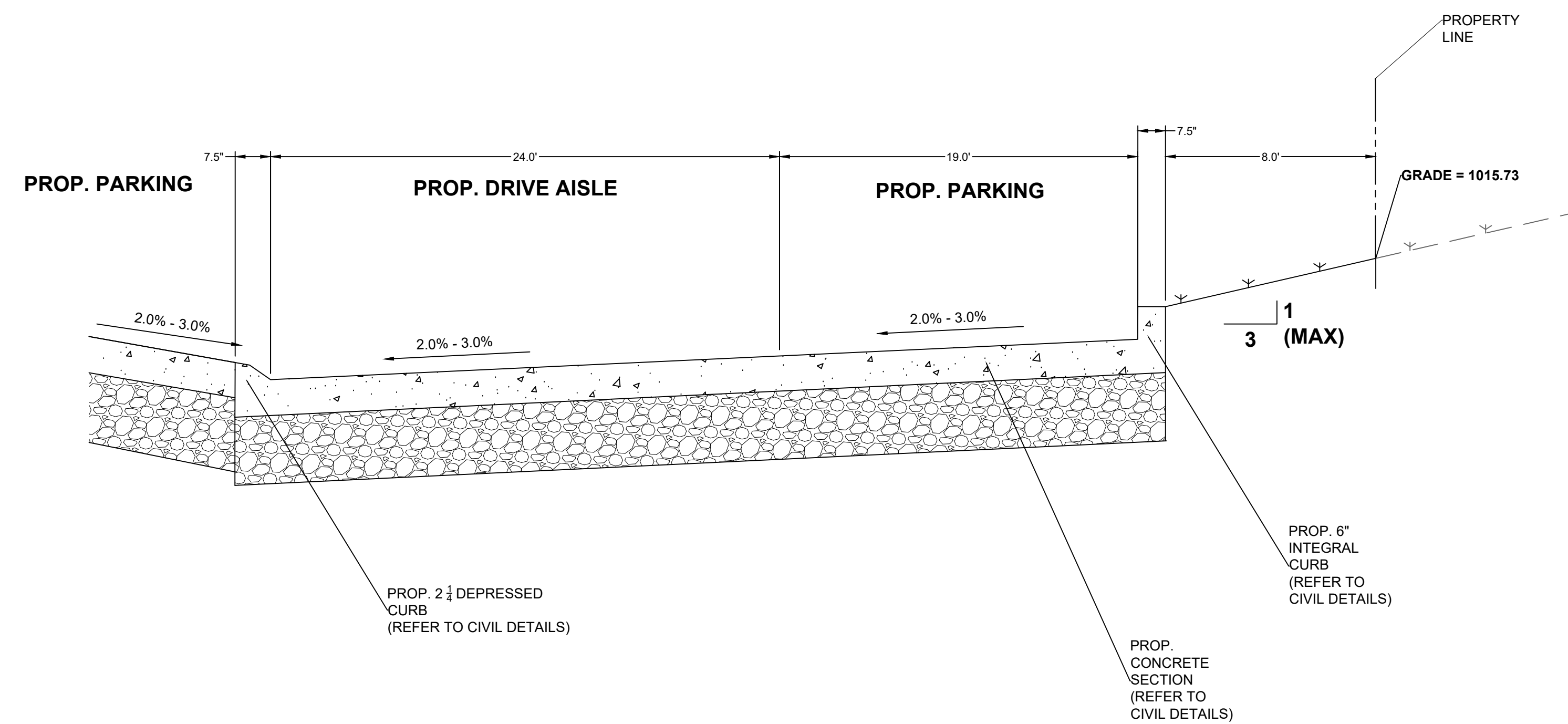
SITE PLAN 3RD REVIEW

DRAINAGE STRUCTURE TABLE					
STRUCTURE	RIM	STRUCTURE TYPE	LID TYPE	DIRECTION	INVERT ELEV.
ST-1	1011.00	SW-502	TYPE R	INV NW	1007.00
ST-2	1012.21	SW-401	TYPE 4B	INV N	1006.66
				INV W	1007.67
				INV SE	1006.76
				INV S	V.I.F.
ST-3	1012.59	FLOW DIVERSION STRUCTURE (SEE DETAIL)	TYPE F	INV N	1006.54
				INV S	1006.64
				INV E	1006.54
ST-4	1013.37	HDS DEVICE (SEE DETAIL)	TYPE F	INV W	1006.50
				INV S	1006.50
ST-5	1013.17	CONTROL STRUCTURE	TYPE F	INV W	1006.28
				INV SE	1006.28
ST-6	1011.37	SW-401	TYPE F	INV NW	1005.98
				INV SE	1005.88
ST-7	1012.8	SW-511	TYPE 6	INV E	1008.04
				INV W	1008.14
				INV S	1008.74
ST-8	1012.67	SW-502	TYPE Q	INV E	1008.43
				INV S	1008.53
				INV W	V.I.F.
ST-9	1013.00	SW-512	TYPE 3A	INV N	1008.64
				INV S	1008.74
				INV E	1008.98
ST-10	1013.01	SW-512	TYPE 3A	INV N	1008.88
				INV S	1008.98
				INV E	1010.12
ST-11	1013.05	SW-512	TYPE 3A	INV N	1009.23
				INV SW	1009.33
ST-12	1012.65	SW-401	TYPE F	INV N	1006.83
				INV SW	1006.83
ADS-1	1015.23	15" ADS NYLOPLAST BASIN	DOME GRATE	INV NW	1009.49
				INV E	1009.59
ADS-2	1014.74	15" ADS NYLOPLAST BASIN	DOME GRATE	INV W	1010.31
ADS-3	1014.82	12" ADS NYLOPLAST BASIN	FLAT GRATE	INV W	1011.75
ADS-4	1015.04	18" ADS NYLOPLAST BASIN	FLAT GRATE	INV N	1010.80
				INV W	1010.80
				INV SW	1010.80
ADS-5	1014.14	18" ADS NYLOPLAST BASIN	FLAT GRATE	INV E	1010.07
				INV S	1010.07
ADS-6	1014.02	18" ADS NYLOPLAST BASIN	FLAT GRATE	INV N	1009.04
				INV W	1009.04
				INV E	1009.04
ADS-7	1014.01	12" ADS NYLOPLAST BASIN	FLAT GRATE	INV NW	1010.88
				INV SW	1010.88
				INV S	1010.43
ADS-8	1013.51	12" ADS NYLOPLAST BASIN	FLAT GRATE	INV E	1010.43
ADS-9	1014.50	12" ADS NYLOPLAST BASIN	FLAT GRATE	INV S	1011.74
ADS-10	1014.85	12" ADS NYLOPLAST BASIN	FLAT GRATE	INV N	1011.38
				INV W	1011.38
				INV E	1011.38
ADS-11	1014.07	12" ADS NYLOPLAST BASIN	FLAT GRATE	INV SE	1010.52
				INV W	1010.52

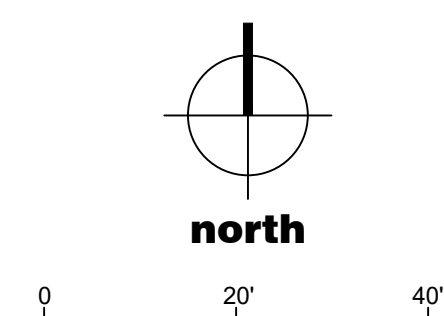
NOTE: CATCH BASINS, MANHOLES, CLEANOUTS, AND LIDS SPECIFIED IN TABLE ARE PER DIVISION 6 OF THE IOWA STATEWIDE URBAN DESIGN AND SPECIFICATIONS (SUDAS) SPECIFICATIONS MANUAL.



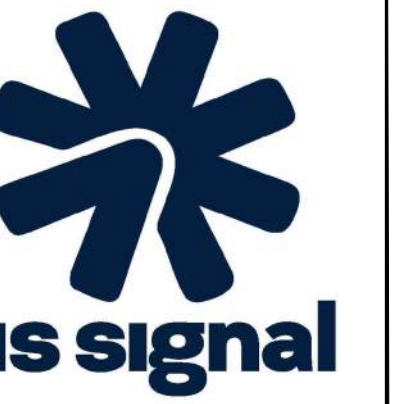
SECTION A  
NOT TO SCALE



SECTION B  
NOT TO SCALE



SITE PLAN 3RD REVIEW



**etzel** ENGINEER & BUILD  
305 West Water Street, Suite 200, Waukesha, WI 53186  
PH: (774) 324-1280 WWW.etzelbuild.com

**exp.**  
exp U.S. Staffing Inc.  
205 West Water Street, Suite 200, Waukesha, WI 53186  
PH: (774) 324-1280 WWW.exp.com

DES MOINES DATA CENTER

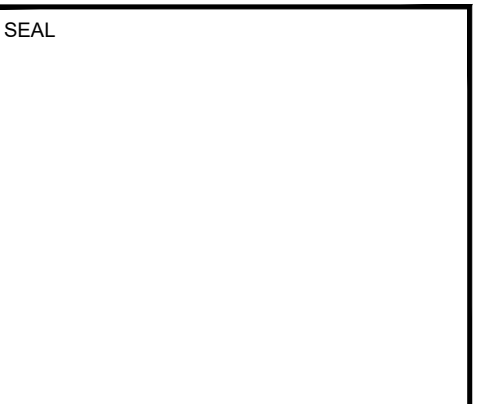
US Signal  
390 NE Alice's Road  
Waukee, IA 50263

NO.	DATE	REVISION
1	07/22/25	DD ISSUE
2	08/26/25	SITE PLAN REVIEW
3	09/12/25	75% ISSUE
4	09/23/25	SITE PLAN 2ND REVIEW
5	10/10/25	BID ISSUE
6	10/22/25	SITE PLAN 3RD REVIEW

PROJECT NUMBER: RUS-25008152-A0  
PROJECT DATE: 10/22/25  
DRAWN BY: MMW  
CHECKED BY: NSK  
SCALE: AS SHOWN

DRAWING TITLE  
CIVIL  
GRADING AND DRAINAGE PLAN

DRAWING NUMBER  
C-301



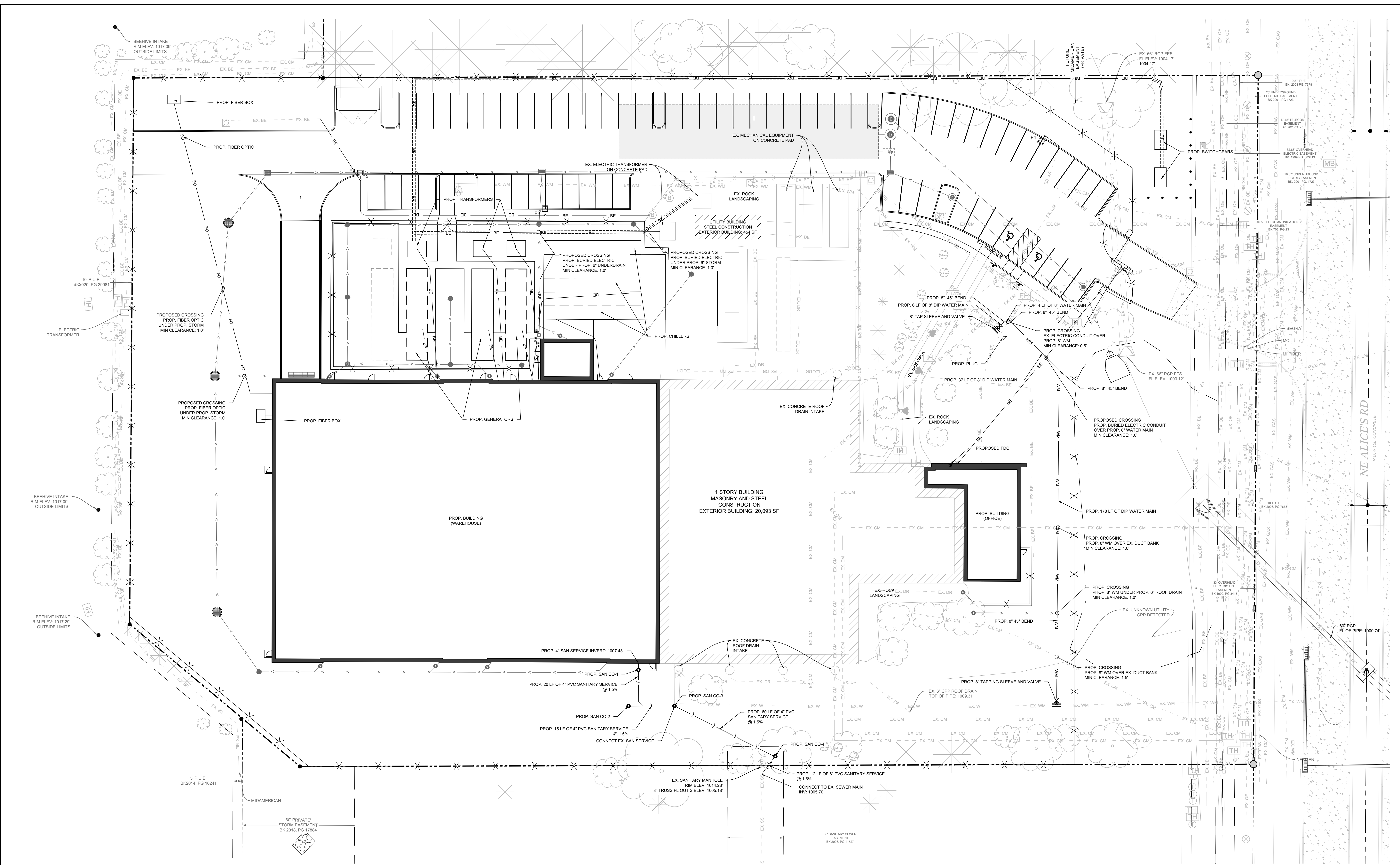
DES MOINES DATA CENTER

US Signal  
390 NE Alice's Road  
Waukee, IA 50263

NO.	DATE	REVISION
01	07/22/25	DD ISSUE
02	08/26/25	SITE PLAN REVIEW
03	09/12/25	75% ISSUE
04	09/23/25	SITE PLAN 2ND REVIEW
05	10/10/25	BD ISSUE
06	10/22/25	SITE PLAN 3RD REVIEW

PROJECT NUMBER: RUS-25008152-A0  
PROJECT DATE: 10/22/25  
DRAWN BY: MMW  
CHECKED BY: NSK  
SCALE: AS SHOWN

DRAWING TITLE  
CIVIL  
UTILITY PLAN  
DRAWING NUMBER  
C-400



**LEGEND**

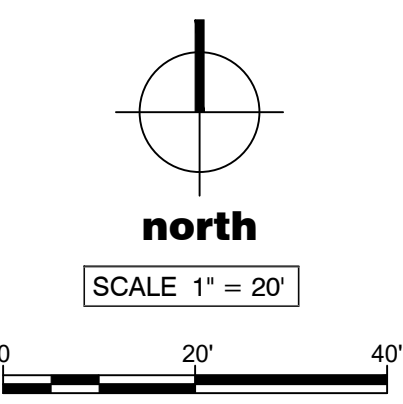
- PROPERTY LINE
- EASEMENT
- FO PROPOSED FIBER OPTIC
- PROPOSED CONCRETE SIDEWALK
- PROPOSED CONCRETE PAVEMENT
- PROPOSED RIVER ROCK
- PROPOSED LANDSCAPING
- PROPOSED FENCE
- PROPOSED CONTOUR
- WM PROPOSED WATER MAIN
- PROPOSED SANITARY SERVICE
- PROPOSED STORM PIPE
- PROPOSED CLEAN OUT
- PROPOSED SIGN
- PROPOSED DRAINAGE MANHOLE
- PROPOSED STORM INLET
- PROPOSED 12" ADS BASIN
- BE PROPOSED UNDER DRAIN
- FO PROPOSED BURIED ELECTRIC
- FO PROPOSED FIBER OPTIC

**UTILITY NOTES**

- CONTRACTOR SHALL PLAN ALL PROPOSED UTILITY CROSSINGS PRIOR TO INSTALLATION TO CONFIRM HORIZONTAL AND VERTICAL CLEARANCES CALLED FOR IN THE PLANS ARE MET AND/OR WILL MEET THE REQUIREMENTS OF ALL AGENCIES HAVING JURISDICTION OVER THE UTILITIES.
- WATER AND SEWER MAINS SHALL BE INSTALLED WITH A MINIMUM OF TEN FEET HORIZONTAL CLEARANCE FROM OUTSIDE WALLS OF PIPE UNLESS OTHERWISE NOTED/ALLOWED.
- WATER SERVICES SHALL BE INSTALLED WITH A MINIMUM OF TEN FEET HORIZONTAL CLEARANCE BETWEEN STORMWATER OR SEWER PIPES MEASURED FROM OUTSIDE WALLS OF PIPE UNLESS OTHERWISE NOTED/ALLOWED. WHEN IMPOSSIBLE TO MAINTAIN A TEN FEET HORIZONTAL SEPARATION, MAINTAIN A MINIMUM SEPARATION OF 3 FEET AND UTILIZE ONE OF THE FOLLOWING WITHIN 10 FEET MEASURED EDGE-TO-EDGE:
  - CONSTRUCT THE WATER MAIN OF DUCTILE IRON PIPE WITH GASKETS IMPERMEABLE TO HYDROCARBONS.
  - ENCLOSE THE WATER MAIN IN A WATERTIGHT CASING PIPE WITH EVENLY SPACED ANNUAL GAP AND WATERTIGHT END SEALS.
  - CONSTRUCT STORM SEWER PIPE OF WATER MAIN MATERIALS.
  - CONSTRUCT STORM SEWERS OF REINFORCED CONCRETE PIPE WITH GASKETS MANUFACTURED ACCORDING TO ASTM C443.
- WATER SERVICES SHALL CROSS ABOVE STORMWATER AND SEWER PIPES WHERE POSSIBLE AND MAINTAIN A MINIMUM CLEARANCE OF ONE AND A HALF FOOT FROM OUTSIDE WALLS OF PIPE UNLESS OTHERWISE NOTED/ALLOWED. IF WATER MUST CROSS UNDERNEATH, THERE SHALL BE A MINIMUM CLEARANCE OF ONE AND A HALF FEET FROM OUTSIDE WALLS OF PIPE UNLESS OTHERWISE NOTED/ALLOWED. WATERWATER CROSSINGS MAY BE ALLOWED WITH A MINIMUM OF ONE HALF FOOT CLEARANCE.
- WATER MAINS (INCLUDING FIRE LINES) SHALL BE INSTALLED A MINIMUM OF FIVE FEET BELOW FINISHED GRADE OR ONE FOOT BELOW FROST DEPTH, WHICHEVER IS GREATER.
- WATER SERVICES (DOMESTIC AND IRRIGATION) SHALL BE INSTALLED A MINIMUM OF FIVE FEET BELOW FINISHED GRADE OR ONE FOOT BELOW FROST DEPTH, WHICHEVER IS GREATER.
- DRY UTILITIES (POWER, COMMUNICATIONS, ETC.) SHALL BE INSTALLED A MINIMUM OF TWO FEET BELOW FINISHED GRADE OR BELOW FROST DEPTH, WHICHEVER IS GREATER. REFER TO MEP AND TECHNOLOGY PLANS FOR THE DETAILS OF ALL PROPOSED DRY UTILITIES.

**GENERAL NOTES**

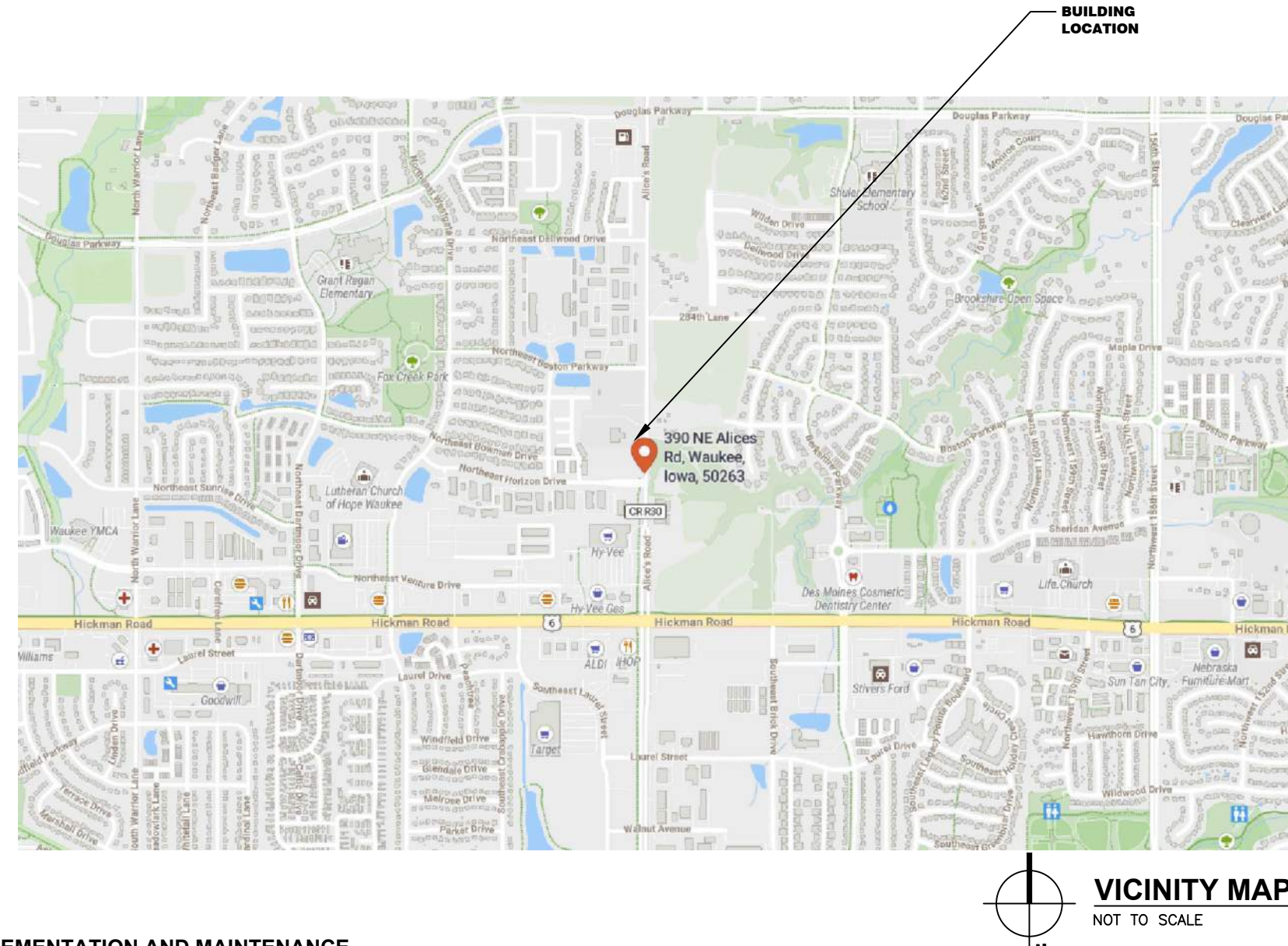
- CONTRACTOR SHALL MAKE ARRANGEMENTS FOR THE PROPER BRACING, SHORING AND OTHER REQUIRED PROTECTION OF ALL ROADWAYS AND EXCAVATIONS BEFORE CONSTRUCTION BEGINS.
- IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY THE EXISTING CONDITION, INCLUDING BUT NOT LIMITED TO, THE PROPERTY BOUNDARY, THE BENCHMARK, EXISTING BUILDING, PAVEMENT AND GROUND ELEVATIONS AND UTILITY HORIZONTAL AND VERTICAL LOCATIONS BEFORE THE START OF CONSTRUCTION.
- CONTRACTOR SHALL REPAIR AND REPLANT ANY EXISTING GRASS OR SOIL THAT IS DISTURBED BY CONSTRUCTION ACTIVITY.
- LOCATIONS OF ALL UTILITY LINES TO BE FIELD VERIFIED WITHIN AREA OF WORK. CONTRACTOR TO NOTIFY OWNER/ENGINEER OF ANY DISCREPANCIES.
- CONTRACTOR SHALL OBTAIN ALL NECESSARY JURISDICTIONAL PERMITS AND APPROVALS PRIOR TO CONSTRUCTION BEGINNING.
- THE TOPOGRAPHIC SURVEY WAS PROVIDED BY MCCLURE, JOB NO. 202501453-000, DATED 06/18/2025. THESE IMPROVEMENT PLANS DO NOT WARRANT THE ACCURACY OF THE PROVIDED SURVEY.
- THE GEOTECHNICAL REPORT WAS PROVIDED BY TERRACON, JOB NO. 08245197-01, DATED 08/05/2025. ACTUAL CONDITIONS OF SOILS, PAVEMENTS, ETC. MAY VARY FROM THIS REPORT. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CONFIRMING CONDITIONS FOUND IN THE FIELD AND REPORT VARIANCES FROM ASSUMPTIONS IN THE GEOTECHNICAL REPORT TO THE ENGINEER.
- VERTICAL DATUM ELEVATIONS ARE BASED ON THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88).



SITE PLAN 3RD REVIEW

# STORM WATER POLLUTION PREVENTION PLAN (SWPPP)

## DES MOINES DATA CENTER EXPANSION 390 N ALICES ROAD, WAUKEE, IA 50263



### IMPLEMENTATION AND MAINTENANCE

- SILT FENCE WILL BE PLACED BY THE CONTRACTOR PRIOR TO BEGINNING GRADING OR CLEARING AND GRUBBING OPERATIONS ALONG THE PERIMETER OF THE PROJECT AT LOCATIONS IN WHICH RUNOFF CAN MOVE OFFSITE. VEGETATION IN AREAS NOT NEEDED FOR CONSTRUCTION SHALL BE PRESERVED. THIS SILT FENCE SHALL REMAIN IN PLACE UNTIL FINAL STABILIZATION HAS BEEN ACHIEVED.
- INSTALL UPSTREAM DIVERSIONS DIVERSIONS, DOWNSLOPE, AND SIDESLOPE PERIMETER CONTROLS BEFORE COMMENCING LAND DISTURBING ACTIVITIES.
- STABILIZATION TO OCCUR IMMEDIATELY WHENEVER ANY CLEANING, GRADING, EXCAVATING, OR OTHER EARTH DISTURBING ACTIVITIES HAVE PERMANENTLY CEASED ON ANY PORTION OF THE SITE OR TEMPORALLY CEASED ON ANY PORTION OF THE SITE AND WILL NOT RESUME FOR A PERIOD EXCEEDING 14 CALENDAR DAYS.
- TREE PROTECTION FENCE WILL BE PLACED BY CONTRACTOR PRIOR TO BEGINNING CLEARING OF VEGETATION.
- DO NOT DISTURB AN AREA UNTIL IT IS NECESSARY FOR CONSTRUCTION TO PROCEED.
- TIME CONSTRUCTION ACTIVITIES TO LIMIT IMPACT ON SEASONAL WEATHER CHANGES.
- DO NOT REMOVE PERIMETER CONTROLS UNTIL UPSTREAM AREAS ARE STABILIZED.
- ROCK OUTLET PROTECTION SHALL REMAIN INTACT.
- PRESERVE EXISTING VEGETATION WHERE ATTAINABLE AND STABILIZE DISTURBED AREAS.
- ALL INLETS THAT ARE ACTIVE ARE TO BE COVERED DURING CONSTRUCTION TO REDUCE SEDIMENT DEPOSITS WITHIN THE STORM SEWER. INLETS ARE TO BE CLEARED DAILY OF DEBRIS.
- PRIOR TO MASS GRADING, CONSTRUCT DIVERSION DRAINAGE SWALES ON THE UPHILL SIDES OF THE DISTURBED AREA TO DIVERT UPHILL RUNOFF FROM EXPOSED SOILS.
- DRAINAGE SWALES REMAIN UNDISTURBED.
- TEMPORARY EARTH PILE SHALL HAVE DOWNSLOPE SILT FENCE PROTECTION.
- SOIL STOCKPILES SHALL BE STABILIZED WITHIN VEGETATION OR COVERED. MOWING MAY BE REQUIRED IF THE VEGETATION BECOMES NUISANCE.
- WORK REQUIRING ENTERING AND LEAVING THE SITE OVER THE COUNTY ROADWAYS INCLUDING MATERIAL DELIVERY AND MOVEMENT OF EQUIPMENT SHALL NOT BE PERMITTED DURING PERIODS WHEN THE GROUND IS EXCEPTIONALLY SOFT AND WET AND EROSION BY VEHICLE IS A CERTAINTY.
- MATERIAL OR EQUIPMENT STORAGE AREAS MUST BE WITHIN THE LIMITS OF SOIL DISTURBING ACTIVITY. THESE AREAS SHALL BE INSPECTED FOR POTENTIAL POLLUTANTS ENTERING THE SYSTEM.
- ALL INTAKES AND MANHOLES TO HAVE SILT WORM AROUND THEM PRIOR TO PAVING AND INLET FILTERS AFTER PAVING. THESE FILTERS SHALL REMAIN IN PLACE UNTIL CONSTRUCTION IS COMPLETE.
- SOIL SHALL BE WATERED DURING DRY, WINDY CONDITIONS TO MINIMIZE EROSION.
- ANY SOIL OR SPILL WASHED, TRACKED OR DROPPED ON TO ADJOINING RIGHT-OF-WAYS AND PROPERTY SHALL BE CLEANED UP BY THE CONTRACTOR AT THE END OF EACH WORK DAY AND PRIOR TO A RAIN EVENT. EARTH RAMPS SHALL NOT BE CONSTRUCTED IN THE STREET GUTTER.
- AFTER INITIAL GRADING PRIOR TO UTILITY CONSTRUCTION, ALL DISTURBED AREAS OUTSIDE THE PROPOSED RIGHT-OF-WAYS ARE TO HAVE TEMPORARY SEEDING AND MULCHING. CONTRACTORS AND SUBS ARE TO MINIMIZE DISTURBANCE TO THESE SEEDED AREAS THROUGH THE USE OF SPECIFIC ACCESS ROUTES WITHIN THE SITE.
- DURING CONSTRUCTION IF IT BECOMES EVIDENT THAT A DISTURBED AREA WILL NOT BE DISTURBED FOR 14 DAYS IT SHALL BE SEEDED BY IMMEDIATELY.
- SILT FENCING SHALL BE CLEANED WHEN THEY HAVE LOST 50% OF THEIR CAPACITY.
- AFTER GRADING OPERATIONS HAVE BEEN COMPLETED, ALL AREAS THAT WILL NOT BE DISTURBED BY SUBSEQUENT CONSTRUCTION ACTIVITIES SHALL BE SEEDED.
- FINISH GRADING AND PERMANENT SEEDING SHALL BE COMPLETED AS SOON AS IT IS PRACTICAL.
- PERMANENT SEEDING A ND MULCHING TO BE DONE IMMEDIATELY AFTER FINAL GRADING PER SUDAS STANDARD SPECIFICATIONS SECTION 9010.
- PERMANENT FINAL PLANT COVERING OR STRUCTURES SHALL BE INSTALLED AS SOON AS POSSIBLE BUT NOT LONGER THAN SEVEN (7) DAYS AFTER FINAL GRADING IS COMPLETED. REPLANTING MAY BE REQUIRED TO ENSURE ADEQUATE VEGETATIVE COVER IS ESTABLISHED. ADEQUATE VEGETATIVE COVER IS CONSIDERED TO BE AT LEAST 70% COVERAGE OF THE SOIL SURFACE BY THE INTENDED SPECIES. IF NATIVE LANDSCAPE IS USED, THEN 70% COVERAGE BY THE COVER CROP IS REQUIRED.
- ANY FAILED AREA OF SEEDING SHALL BE RESEEDED. IN THE EVENT THAT SEEDING/MULCHING DOES NOT OCCUR PRIOR TO WINTER, ALL DISTURBED AREAS SHALL BE MULCHED.

### INSPECTIONS

- QUALIFIED PERSONNEL SHALL INSPECT DISTURBED AREAS OF THE CONSTRUCTION SITE THAT HAVE NOT BEEN FINALLY STABILIZED AT LEAST ONCE EVERY SEVEN CALENDAR DAYS.
- INSPECT SITE FOR EVIDENCE OF, OR THE POTENTIAL OF, POLLUTANTS ENTERING THE DRAINAGE SYSTEM FROM STORED MATERIALS.
- OBSERVE EROSION AND SEDIMENT CONTROL MEASURES TO ENSURE THAT THEY ARE OPERATING CORRECTLY, REPAIR AND REPLACE AS NECESSARY.
- LOCATIONS WHERE VEHICLES ENTER OR EXIT THE SITE SHALL BE INSPECTED FOR EVIDENCE OF OFF-SITE SEDIMENT TRACKING.
- INSPECT DISCHARGE LOCATIONS AT THE END OF EACH WORK DAY TO ASCERTAIN WHETHER EROSION CONTROL MEASURES ARE EFFECTIVE IN PREVENTING SIGNIFICANT IMPACTS TO RECEIVING WATER.
- ANY MODIFICATIONS TO THE PLAN AS A RESULT OF AN INSPECTION SHALL BE IMPLEMENTED WITHIN 72 HOURS OF THE INSPECTION.
- AN INSPECTION REPORT SHALL BE PREPARED AND RETAINED AS PART OF THE PREVENTION PLAN UNTIL PROJECT TERMINATION. THIS REPORT WILL CONTAIN THE FOLLOWING:
  - A SUMMARY OF THE SCOPE OF THE INSPECTION.
  - QUALIFICATIONS OF THE PERSONNEL MAKING THE INSPECTION.
  - MAJOR OBSERVATIONS RELATING TO THE IMPLEMENTATION OF THE PREVENTION PLAN.
  - ANY ACTIONS TAKEN
  - SIGNATURE
- THE REPORTS SHALL CONFORM TO THE STANDARDS SET BY THE IOWA DNR. COPIES OF THESE REPORTS SHALL BE FORWARDED TO THE OWNER.
- THE CONTRACTOR IS TO TAKE NECESSARY ACTIONS TO CORRECT DEFICIENCIES FOUND DURING INSPECTIONS AS SOON AS PRACTICABLE BUT IN NO CASE LATER THAN SEVEN (7) DAYS AFTER THE INSPECTION.
- RECORDS SHALL BE RETAINED FOR AT LEAST THREE (3) YEARS OR UNTIL PROJECT TERMINATION.

### NON-STORM WATER DISCHARGES

- WATER MAIN FLUSHING
- FLUSHED WATER WILL BE DECHLORINATED AND DISCHARGED INTO THE STORM SEWER SYSTEM WHERE, WHEN DISCHARGED, IT WILL UNDERGO EROSION AND SEDIMENT CONTROLS CONSISTING OF:
  - SILTATION BASINS
  - ROCK OUTLET PROTECTION (RIPRAP)
  - SILT FENCING
  - EXISTING VEGETATION
- PETROLEUM STORAGE INCLUDING BUT NOT LIMITED TO FUEL, GEAR OIL, ENGINE OIL, HYDRAULIC OIL, WASTE OIL SHALL NOT BE STORED ON SITE.
- CONCRETE WASHOUT AREAS SHALL BE CONTAINED TO A 50' BY 50' AREA SURROUNDED BY SILT FENCE.
- PORTABLE TOILETS SHALL HAVE DOWNSLOPE SILT FENCE PROTECTION. THE HOLDING TANK WILL BE PUMPED OUT AS NEEDED AND DISPOSED OFF-SITE.

11. THE CONTRACTOR IS REQUIRED TO TAKE DUE PRECAUTIONARY MEASURES TO PROTECT THE UTILITIES OR STRUCTURES AT THE SITE. IT SHALL BE THE CONTRACTORS RESPONSIBILITY TO NOTIFY THE OWNERS OF UTILITIES OR STRUCTURES CONCERNED BEFORE STARTING WORK. THE CONTRACTOR SHALL NOTIFY THE PROPER UTILITY IMMEDIATELY UPON BREAKING OR DAMAGE TO ANY UTILITY LINE OF APPURTENANCE, OR THE INTERRUPTION OF THEIR SERVICE. HE SHALL NOTIFY THE PROPER UTILITY INVOLVED, IF EXISTING UTILITY LINES ARE ENCOUNTERED THAT CONFLICT IN LOCATION WITH NEW CONSTRUCTION. THE CONTRACTOR SHALL NOTIFY THE ENGINEER SO THAT THE CONFLICT MAY BE RESOLVED.

### SITE DESCRIPTION

- OWNER/APPLICANT: US SIGNAL / ETZEL DESIGN & BUILD
- LOCATION: 390 NE ALICES RD, WAUKEE, IOWA 50263
- PART OF SE 1/4, SECTION 27, TOWNSHIP 79 NORTH, RANGE 26 WEST OF THE 5TH P.M.
- NATURE OF CONSTRUCTION ACTIVITY: CONSTRUCTION OF OFFICE/WAREHOUSE REDEVELOPMENT
- AREAS:
  - TOTAL SITE AREA: 5.0 ACRES
  - SITE AREA AFFECTED: 2.7 ACRES
- RUNOFF COEFFICIENT: 0.58
- EXISTING SOILS DATA:
  - LEAN CLAY AND SANDY LEAN CLAY, VARYING SAND CONTENT
  - LEAN CLAY, TRACE SAND
  - LEAN TO FAT CLAY, TRACE SAND
- (SOURCE: SUBSURFACE EXPLORATION AND GEOTECHNICAL ENGINEERING EVALUATION FROM TERRACON CONSULTANTS, LLC., IN AUGUST, 2025).
- RECEIVING WATER(S) AND ULTIMATE RECEIVING WATER(S): RUNOFF FROM THIS PROJECT WILL FLOW INTO UNDERGROUND STORM DETENTION AND WILL FLOW INTO UNNAMED DITCHES WHICH WILL FLOW INTO LITTLE WALNUT CREEK, TO WALNUT CREEK.
- EXISTENCE OF QUANTITATIVE STORM WATER DISCHARGE DATA: NO

### SEQUENCE OF SOIL DISTURBING ACTIVITIES AND IMPLEMENTATION CONTROLS

- CLEARING AND GRUBBING
- EROSION AND SEDIMENT CONTROLS
- STABILIZATION PRACTICES
- EXISTING VEGETATION IS PRESERVED WHENEVER POSSIBLE.
- PERMANENT SEEDING AND/OR SODDING AFTER CONSTRUCTION.
- PROTECTION OF TREES AND PRESERVATION OF MATURE VEGETATION WHEREVER POSSIBLE.
- DRAINAGE SWALES
- STORM WATER MANAGEMENT
- VELOCITY DISSIPATION BY USE OF ORIFICE IN UNDERGROUND STORAGE DETENTION TO PROVIDE NON-EROSIVE VELOCITY FLOWS.
- ALL MATERIAL WASTES MUST BE REMOVED FROM THE SITE.
- ON-SITE VEHICLE TRACKING SEDIMENT PAD TO REDUCE SEDIMENTS OFF-SITE.
- TOTAL COMPLIANCE WITH STATE/LOCAL WASTE DISPOSAL REGULATIONS.
- CONTROLS MUST BE IN GOOD OPERATING CONDITION UNTIL THE CONSTRUCTION ACTIVITY IS COMPLETE AND FINAL STABILIZATION HAS BEEN REACHED.
- PLACEMENT OF INLET PROTECTIONS
- PLACEMENT OF SILT FENCES
- EARTHWORK AND GRADING
- REMOVE INLET PROTECTIONS, SILT FENCES, AND SILT WORMS
- CLEAN ALL CONSTRUCTION DEBRIS FROM CONSTRUCTION SITE

### MAINTENANCE

- ALL MEASURES WILL BE MAINTAINED IN GOOD WORKING ORDER; IF A REPAIR IS NECESSARY, IT WILL BE INITIATED WITHIN 24 HOURS OF REPORT.
- BUILT UP SEDIMENT WILL BE REMOVED FROM SILT FENCE WHEN IT HAS REACHED ONE-THIRD OF THE HEIGHT OF THE FENCE.
- PROTECT ALL INLETS SURROUNDING CONSTRUCTION SITE.
- STREET SWEEPING AND DUST PREVENTION MUST BE IMPLEMENTED DAILY.
- CONTAINMENT OR REMOVAL OF POLLUTANTS SHALL BE IN ACCORDANCE WITH ALL APPLICABLE STATE AND CITY OF WAUKEE AND IOWA DOT/SUDAS SPECIFICATIONS.
- THE RESPONSIBLE PERSONS FOR MONITORING AND MAINTAINING THE EROSION CONTROL DEVICES SHALL BE SITE CONTRACTOR/CONTRACTOR'S DESIGNATED SUPERINTENDENT.
- ANY SOIL OR SPILL WASHED, TRACKED OR DROPPED ON TO ADJOINING RIGHT-OF-WAYS AND PROPERTY SHALL BE CLEANED UP BY THE CONTRACTOR WITHIN AT THE END OF THE WORK DAY AND PRIOR TO A RAIN EVENT. EARTH RAMPS SHALL NOT BE CONSTRUCTED IN THE STREET GUTTER.
- SILT FENCING SHALL BE CLEANED WHEN THEY HAVE LOST 50% OF THEIR CAPACITY.
- ALL INTAKES AND MANHOLES TO HAVE SILT FENCES AROUND THEM FOR PRIOR TO PAVING AND INLET FILTERS AFTER PAVING.

### FEDERAL CONSTRUCTION AND DEVELOPMENT EFFLUENT GUIDELINES

- EROSION AND SEDIMENT CONTROLS
  - STORM WATER CONTROL STRUCTURE
    - AN UNDERGROUND STORMWATER DETENTION SYSTEM, DESIGNED BY STORMVAULT AND INSTALLED BY THE CONTRACTOR, WILL BE INSTALLED TO DETAIN THE CHANNEL PROTECTION VOLUME FOR A 1-YEAR, 24-HOUR STORM EVENT. THE SYSTEM SHALL HAVE A STORAGE CAPACITY OF 19,456 CUBIC FEET. OPERATION AND MAINTENANCE SHALL BE THE RESPONSIBILITY OF THE OWNER AND PERFORMED IN ACCORDANCE WITH STORMVAULT'S PUBLISHED OPERATION AND MAINTENANCE GUIDELINES TO ENSURE CONTINUED PERFORMANCE AND COMPLIANCE WITH THE DESIGN INTENT.
    - A STORMWATER CONTROL STRUCTURE, DESIGNED BY THE ENGINEER OF RECORD (EOR) AND CONSTRUCTED AND INSTALLED BY THE CONTRACTOR, WILL BE INSTALLED TO REGULATE THE VELOCITY OF STORMWATER DISCHARGED FROM THE DETENTION SYSTEM. THE CONTROL STRUCTURE SHALL HAVE A PEAK FLOW RATE OF 0.29 CUBIC FEET PER SECOND (CFS) FOR A 1-YEAR, 24-HOUR STORM EVENT. THE OWNER SHALL INSPECT THE STRUCTURE TWICE ANNUALLY AND FOLLOWING SIGNIFICANT RAINFALL EVENTS TO IDENTIFY AND ADDRESS ANY DEFICIENCIES, ENSURING THE STRUCTURE CONTINUES TO PERFORM IN ACCORDANCE WITH THE DESIGN INTENT.
  - MEASURES TO MINIMIZE THE DISTURBANCE OF STEEP SLOPES
    - LIMIT DISTURBANCE TO ONLY THE AREAS NECESSARY FOR CONSTRUCTION; AVOID GRADING ON SLOPES STEEPER THAN 3:1 UNLESS UNAVOIDABLE.
    - PHASE CONSTRUCTION SO THAT STEEP SLOPES ARE EXPOSED FOR THE SHORTEST TIME POSSIBLE.
    - STABILIZE EXPOSED SLOPES IMMEDIATELY AFTER GRADING USING EROSION CONTROL BLANKETS, TURF REINFORCEMENT MATS, OR HYDROSEEDING.
    - INSTALL SLOPE BREAKS SUCH AS SILT FENCE, WATTLES, OR COIR LOGS AT INTERVALS ALONG LONG SLOPES TO SLOW RUNOFF AND CAPTURE SEDIMENT.
    - DIVERT UPSLOPE RUNOFF AWAY FROM DISTURBED SLOPES USING DIVERSION SWALES, BERMS, OR SLOPE DRAINS.
- SOIL AND EROSION CONTROL
- DEWATERING
  - DISCHARGES FROM DEWATERING ACTIVITIES, INCLUDING DISCHARGES FROM DEWATERING OF TRENCHES AND EXCAVATION, ARE PROHIBITED UNLESS MANAGED BY APPROPRIATE CONTROLS.
- PROHIBITED DISCHARGES
  - THE FOLLOWING DISCHARGES ARE PROHIBITED: WASTEWATER FROM WASHOUT AND CLEANOUT OF STUCCO, PAINT, FORM RELEASE OILS, CURING COMPOUNDS AND OTHER CONSTRUCTION MATERIALS, FUELS, OILS OR OTHER POLLUTANTS USED IN VEHICLE AND EQUIPMENT OPERATION AND MAINTENANCE, AND SOAPS OR SOLVENTS USED IN VEHICLE AND EQUIPMENT WASHING.
- PERMANENT STORMWATER MANAGEMENT CONTROLS
  - A "STORMSETTLER" HYDRODYNAMIC SEPARATOR (HDS), DESIGNED BY STORMTRAP, WILL BE INSTALLED TO PROVIDE WATER QUALITY TREATMENT FOR A 1.25-INCH STORM EVENT, ACHIEVING AN ANTICIPATED 80% TOTAL SUSPENDED SOLIDS (TSS) REMOVAL EFFICIENCY. THE SYSTEM SHALL BE OPERATED AND MAINTAINED BY OWNER IN ACCORDANCE WITH STORMTRAP'S PROVIDED OPERATION AND MAINTENANCE GUIDELINES TO ENSURE CONTINUED PERFORMANCE AND COMPLIANCE WITH DESIGN INTENT.
- POLLUTION PREVENTION MEASURES
  - CONTRACTOR TO MINIMIZE THE DISCHARGE OF POLLUTANTS FROM EQUIPMENT AND VEHICLE WASHING. WHEEL WASH WATER AND OTHER WASH WATERS. WASH WATERS MUST BE TREATED IN A SEDIMENT BASIN OR ALTERNATIVE CONTROL THAT PROVIDES EQUIVALENT OR BETTER TREATMENT PRIOR TO DISCHARGE.
  - MINIMIZE THE EXPOSURE OF BUILDING MATERIALS, BUILDING PRODUCTS, CONSTRUCTION WASTES, TRASH, LANDSCAPE MATERIALS, FERTILIZERS, PESTICIDES, HERBICIDES, DETERGENTS, SANITARY WASTE AND OTHER MATERIALS PRESENT ON THE TO PRECIPITATION AND STORM WATER.
  - CONTRACTOR TO MINIMIZE THE DISCHARGE OF POLLUTANTS FROM SPILLS AND LEAKS AND IMPLEMENTS CHEMICAL SPILL AND LEAK PREVENTION AND RESPONSE PROCEDURES.

### OTHER CONTROLS

CONTRACTOR TO MINIMIZE OFF-SITE TRACKING OF SEDIMENTS AND GENERATION OF DUST OR EQUIVALENT.

### SEQUENCE OF MAJOR ACTIVITIES

- PRE-CONSTRUCTION:** SILT FENCE WILL BE PLACED BY THE CONTRACTOR PRIOR TO BEGINNING GRADING OR CLEARING AND GRUBBING OPERATIONS ALONG THE PERIMETER OF THE PROJECT AT LOCATIONS IN WHICH RUNOFF CAN MOVE OFFSITE. VEGETATION IN AREAS NOT NEEDED FOR CONSTRUCTION SHALL BE PRESERVED. THIS SILT FENCE SHALL REMAIN IN PLACE UNTIL FINAL STABILIZATION HAS BEEN ACHIEVED.
- GRADING:** AFTER GRADING OPERATIONS HAVE BEEN COMPLETED, ALL AREAS THAT WILL NOT BE DISTURBED BY SUBSEQUENT CONSTRUCTION ACTIVITIES SHALL BE SEEDED.
- FINISH GRADING AND SEEDING:** FINISH GRADING AND PERMANENT SEEDING SHALL BE COMPLETED AS SOON AS IT IS PRACTICAL.

### CONTRACTOR

- CONTRACTOR WILL HAVE A COPY OF THE SWPPP ON SITE.
- CONTRACTOR SHALL FOLLOW THE SWPPP DOCUMENTATION AND PROCESS FOR MAINTAINING EROSION AND POLLUTION CONTROLS. IF CHANGES ARE REQUIRED BUT NOT MADE WITHIN 72 HOURS OF REQUIRED WEEKLY INSPECTION, IT SHALL BE DOCUMENTED IN THE PLAN WHY IT IS IMPRACTICAL AND WITH AN ESTIMATED COMPLETION DATE AND PROVIDED WITH THE INSPECTION REPORTS.

### OWNER'S CERTIFICATION

"I CERTIFY UNDER PENALTY OF LAW THAT I UNDERSTAND THE TERMS AND CONDITIONS OF THE GENERAL NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) PERMIT THAT AUTHORIZES THE STORM WATER DISCHARGES ASSOCIATED WITH INDUSTRIAL ACTIVITY FROM THE CONSTRUCTION SITE AS PART OF THIS CERTIFICATION. FURTHER, BY MY SIGNATURE, I UNDERSTAND THAT I AM BECOMING A CO-PERMITTEE, ALONG WITH THE CONTRACTOR AND SUBCONTRACTORS SIGNING SUCH CERTIFICATIONS, TO THE IOWA DEPARTMENT OF NATURAL RESOURCES NPDES GENERAL PERMIT NO.2 FOR "STORM WATER DISCHARGE ASSOCIATED WITH INDUSTRIAL ACTIVITY FOR CONSTRUCTION ACTIVITIES" AT THE IDENTIFIED SITE. AS A CO-PERMITTEE, I UNDERSTAND THAT I, AND MY ORGANIZATION, ARE LEGALLY REQUIRED UNDER THE CLEAN WATER ACT AND THE CODE OF IOWA, TO ENSURE COMPLIANCE WITH THE TERMS AND CONDITIONS OF THE STORM WATER POLLUTION PREVENTION PLAN DEVELOPED UNDER THIS NPDES PERMIT AND THE TERMS OF THIS NPDES PERMIT.

I CERTIFY UNDER PENALTY OF LAW THAT THIS DOCUMENT AND ALL ATTACHMENTS WERE PREPARED UNDER MY DIRECTION OR SUPERVISION IN ACCORDANCE WITH A SYSTEM DESIGNED TO ASSURE THAT QUALIFIED PERSONNEL PROPERLY GATHERED AND EVALUATED THE INFORMATION SUBMITTED. BASED ON MY INQUIRY OF THE PERSON OR PERSONS WHO MANAGE THE SYSTEM, OR THOSE PERSONS DIRECTLY RESPONSIBLE FOR GATHERING THE INFORMATION, THE INFORMATION SUBMITTED IS, TO THE BEST OF MY KNOWLEDGE AND BELIEF, TRUE, ACCURATE, AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION, INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT FOR KNOWING VIOLATIONS."

NAME/ TITLE: \_\_\_\_\_  
 COMPANY: \_\_\_\_\_ DATE: \_\_\_\_\_  
 TELEPHONE NUMBER: \_\_\_\_\_

### CONTRACTOR CERTIFICATION

I CERTIFY UNDER PENALTY OF LAW THAT I UNDERSTAND THE TERMS AND CONDITIONS OF THE GENERAL NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) PERMIT THAT AUTHORIZES THE STORM WATER DISCHARGES ASSOCIATED WITH INDUSTRIAL ACTIVITY FROM THE CONSTRUCTION SITE AS PART OF THIS CERTIFICATION. FURTHER, BY MY SIGNATURE, I UNDERSTAND THAT I AM BECOMING A CO-PERMITTEE, ALONG WITH THE OWNER'S AND OTHER CONTRACTORS AND SUBCONTRACTORS SIGNING SUCH CERTIFICATIONS, TO THE IOWA DEPARTMENT OF NATURAL RESOURCES NPDES GENERAL PERMIT NO.2 FOR "STORM WATER DISCHARGE ASSOCIATED WITH INDUSTRIAL ACTIVITY FOR CONSTRUCTION ACTIVITIES" AT THE IDENTIFIED SITE. AS A CO-PERMITTEE, I UNDERSTAND THAT I AND MY COMPANY ARE LEGALLY REQUIRED UNDER THE CLEAN WATER ACT AND THE CODE OF IOWA, TO ENSURE COMPLIANCE WITH THE TERMS AND CONDITIONS OF THE STORM WATER POLLUTION PREVENTION PLAN DEVELOPED UNDER THIS NPDES PERMIT AND THE TERMS OF THIS NPDES PERMIT.

### GENERAL CONTRACTOR

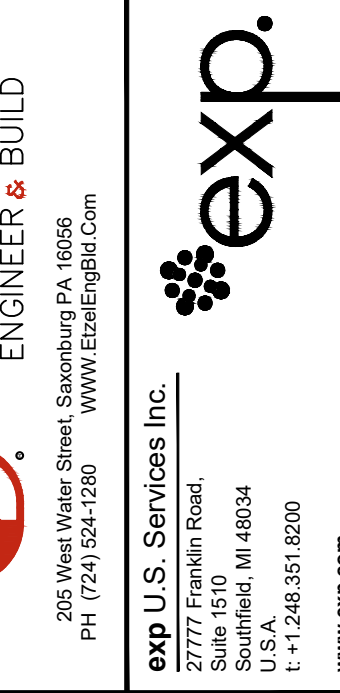
NAME/ TITLE: \_\_\_\_\_  
 COMPANY: \_\_\_\_\_ DATE: \_\_\_\_\_  
 TELEPHONE NUMBER: \_\_\_\_\_

### SUBCONTRACTOR

NAME/ TITLE: \_\_\_\_\_  
 COMPANY: \_\_\_\_\_ DATE: \_\_\_\_\_  
 TELEPHONE NUMBER: \_\_\_\_\_

### OTHER

NAME/ TITLE: \_\_\_\_\_  
 COMPANY: \_\_\_\_\_ DATE: \_\_\_\_\_  
 TELEPHONE NUMBER: \_\_\_\_\_



DES MOINES DATA CENTER

us signal  
390 NE Alice's Road  
Waukee, IA 50263

NO.	DATE	REVISION
08/29/25		SITE PLAN REVIEW
09/23/25		SITE PLAN 2ND REVIEW

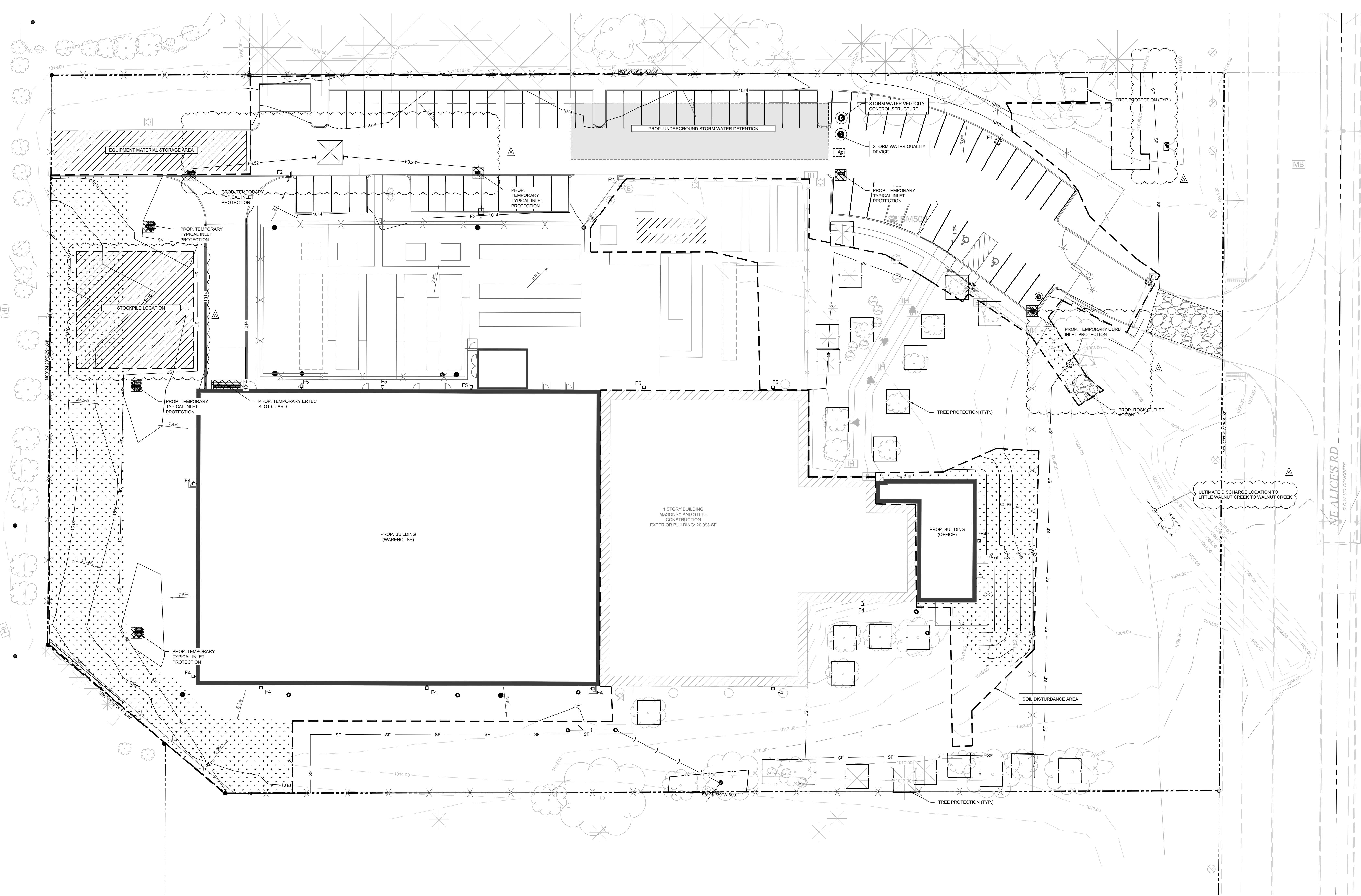
PROJECT NUMBER:	RUS-25008152-A0
PROJECT DATE:	09/23/25
DRAWN BY:	MMW
CHECKED BY:	NSK
SCALE:	AS SHOWN

DRAWING TITLE	CIVIL SWPPP PLAN
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DRAWING NUMBER	C-500
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PRELIMINARY PLANS - NOT FOR CONSTRUCTION



**LEGEND**

- PROPERTY LINE
- - - EASEMENT
- SOIL STABILIZATION
- - - PROPOSED FENCE
- x --- TEMPORARY TREE PROTECTION
- - - TEMPORARY SILT FENCE
- ⊗ TEMPORARY INLET PROTECTION
- ⊗ TEMPORARY CONCRETE WASHOUT

**EROSION AND SEDIMENT CONTROLS**

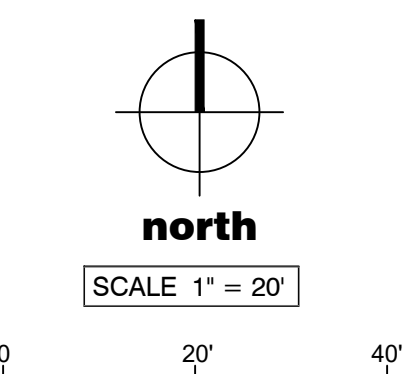
SILT FENCE: 1700 LF  
 SEEINGMILCHINGSODDING: 1 AC.  
 CRUSHED STONE FOR TEMPORARY CONSTRUCTION ENTRANCE: 170 SY  
 INLET PROTECTION FILTERS: 8

**SWPP/SESC NOTES**

1. CONTRACTOR SHALL BE RESPONSIBLE FOR EROSION AND SEDIMENTATION CONTROLS AS DETAILED IN THE STORMWATER POLLUTION PREVENTION (SWPP) PLAN TO PREVENT TRANSMISSION OF SEDIMENT TO THE DRAINAGE FACILITIES.
2. EROSION AND SEDIMENT CONTROL MEASURES ARE TO BE PLACED PRIOR TO, OR AS THE FIRST PART OF CONSTRUCTION. SEDIMENT CONTROL MEASURES MUST PROTECT ALL DRAINAGE FACILITIES FROM SEDIMENTATION.
3. EROSION AND SEDIMENT CONTROL MEASURES TO BE INSPECTED DAILY. REPAIRS TO BE MADE AS NECESSARY AND WITHIN 24 HOURS OF INSPECTION.
4. EROSION CONTROL MEASURES SHALL BE INSTALLED AROUND ANY DIRT OR TOPSOIL STOCKPILES AND OTHER TEMPORARILY DISTURBED AREAS.
5. ALL EROSION AND SEDIMENTATION CONTROL MEASURES SHALL BE REMOVED AND DISPOSED OF IN ACCORDANCE WITH ALL JURISDICTIONAL, GOVERNMENTAL, AGENCY REQUIREMENTS WITHIN 30 DAYS OF FINAL STABILIZATION.
6. CONTRACTOR TO MINIMIZE CONSTRUCTION ON AREAS TO BE REGRADED AND PRESERVE JOB-604-WHISKEY-SEAPRTR.
7. ALL SAWCUTTING AND GRINDING OPERATIONS SHALL INCLUDE FULL CONTAINMENT OF SLURRY TO PREVENT DISCHARGE INTO STORM DRAINS, WATERWAYS, OR SURROUNDING SOIL. SLURRY SHALL BE COLLECTED USING APPROVED VACUUM OR CONTAINMENT METHODS AND STORED IN LEAK-PROOF CONTAINERS. DISPOSAL SHALL COMPLY WITH ALL APPLICABLE LOCAL, STATE, AND FEDERAL REGULATIONS, INCLUDING THOSE GOVERNING NON-HAZARDOUS LIQUID WASTE. UNDER NO CIRCUMSTANCES SHALL SLURRY BE ALLOWED TO ENTER THE STORMWATER SYSTEM OR FLOW OFFSITE.

**GENERAL NOTES**

1. CONTRACTOR SHALL MAKE ARRANGEMENTS FOR THE PROPER BRACING, SHORING AND OTHER REQUIRED PROTECTION OF ALL ROADWAYS AND EXCAVATIONS BEFORE CONSTRUCTION BEGINS.
2. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY THE EXISTING CONDITION, INCLUDING BUT NOT LIMITED TO, THE PROPERTY BOUNDARY, THE BENCHMARK, EXISTING BUILDING, PAVEMENT AND GROUND ELEVATIONS AND UTILITY HORIZONTAL AND VERTICAL LOCATIONS BEFORE THE START OF CONSTRUCTION.
3. CONTRACTOR SHALL REPAIR AND REPLANT ANY EXISTING GRASS OR SOIL THAT IS DISTURBED BY CONSTRUCTION ACTIVITY.
4. LOCATIONS OF ALL UTILITY LINES TO BE FIELD VERIFIED WITHIN AREA OF WORK. CONTRACTOR TO NOTIFY OWNER/ENGINEER OF ANY DISCREPANCIES.
5. CONTRACTOR SHALL OBTAIN ALL NECESSARY JURISDICTIONAL, PERMITS AND APPROVALS PRIOR TO CONSTRUCTION BEGINNING, INCLUDING IOWA DNR GENERAL PERMIT #2 AND CITY OF WAUKEE COSESCO PERMIT.
6. THE TOPOGRAPHIC SURVEY WAS PROVIDED BY MCCLURE, JOB NO. 2025001453-000, DATED 06/18/2025. THESE IMPROVEMENT PLANS DO NOT WARRANT THE ACCURACY OF THE PROVIDED SURVEY.
7. THE GEOTECHNICAL REPORT WAS PROVIDED BY TERRACON, JOB NO. 08245197-01, DATED 08/02/25. ACTUAL CONDITIONS OF SOILS, PAVEMENTS, ETC. MAY VARY FROM THIS REPORT. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CONFIRMING CONDITIONS FOUND IN THE FIELD AND REPORT VARIANCES FROM ASSUMPTIONS IN THE GEOTECHNICAL REPORT TO THE ENGINEER.
8. VERTICAL DATUM ELEVATIONS ARE BASED ON THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAV88).



PRELIMINARY PLANS - NOT FOR CONSTRUCTION



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SEAL

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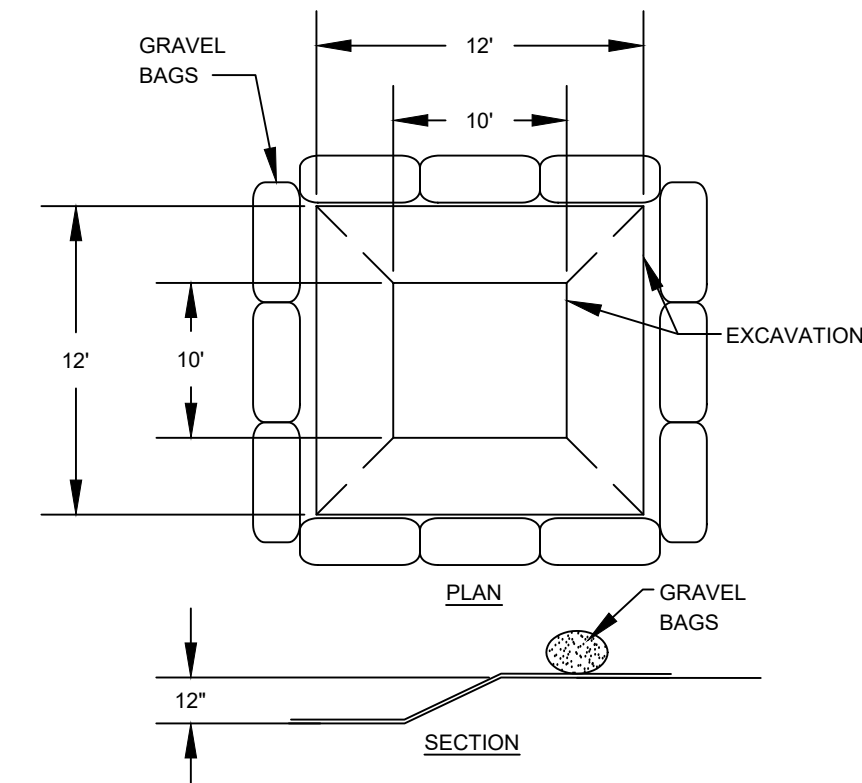
**US Signal**  
 390 NE Alice's Road  
 Waukee, IA 50263

NO.	DATE	REVISION
08/25/25	08/23/25	SITE PLAN REVIEW
09/23/25	09/23/25	SITE PLAN 2ND REVIEW

PROJECT NUMBER: RUS-25008152-A0  
 PROJECT DATE: 08/23/25  
 DRAWN BY: MMW  
 CHECKED BY: NSK  
 SCALE: AS SHOWN

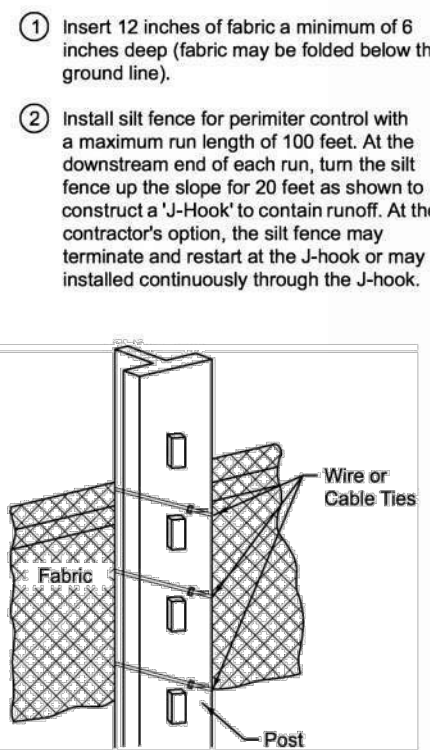
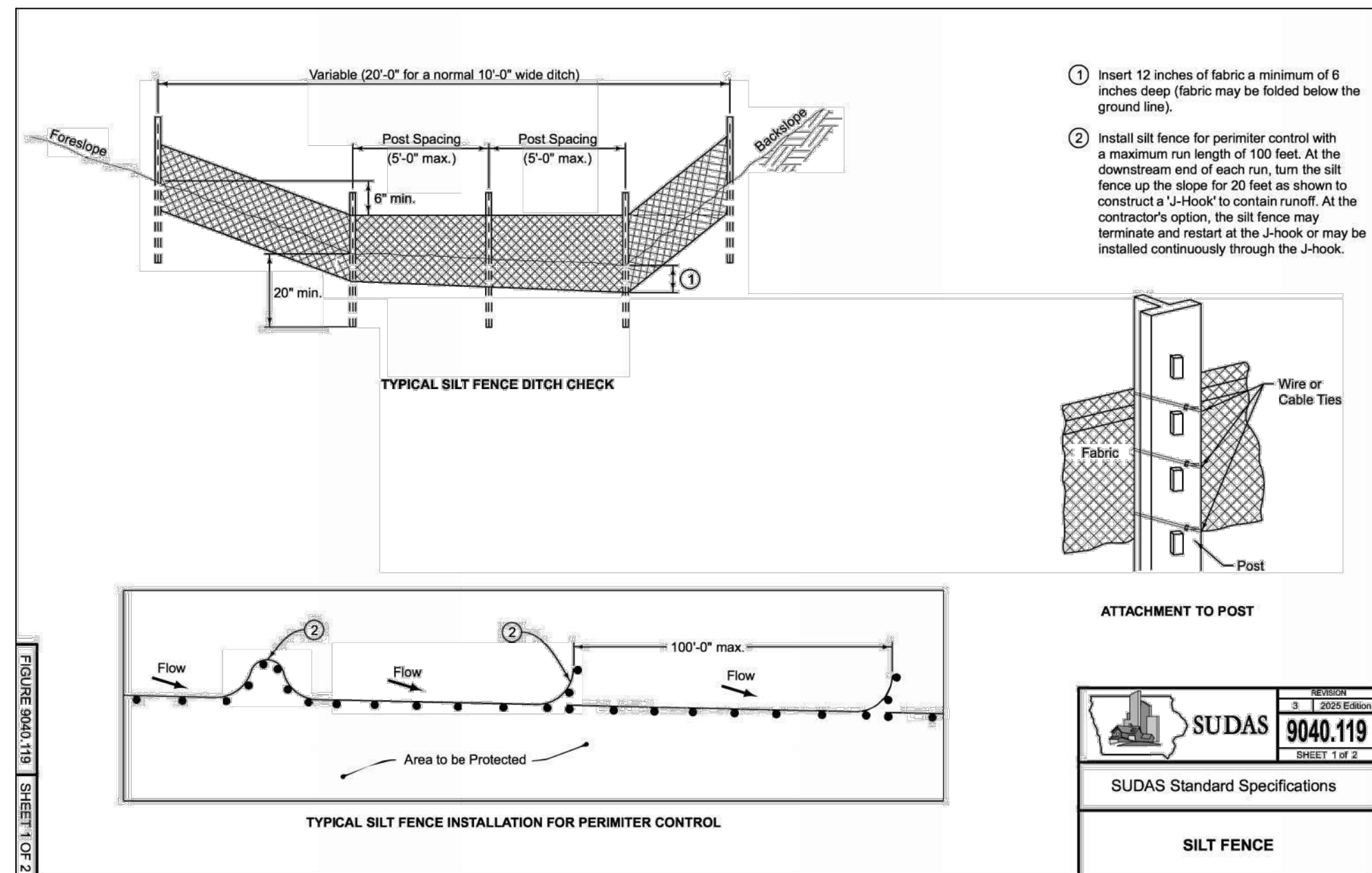
DRAWING TITLE  
 CIVIL  
 SWPP PLAN

DRAWING NUMBER  
**C-501**

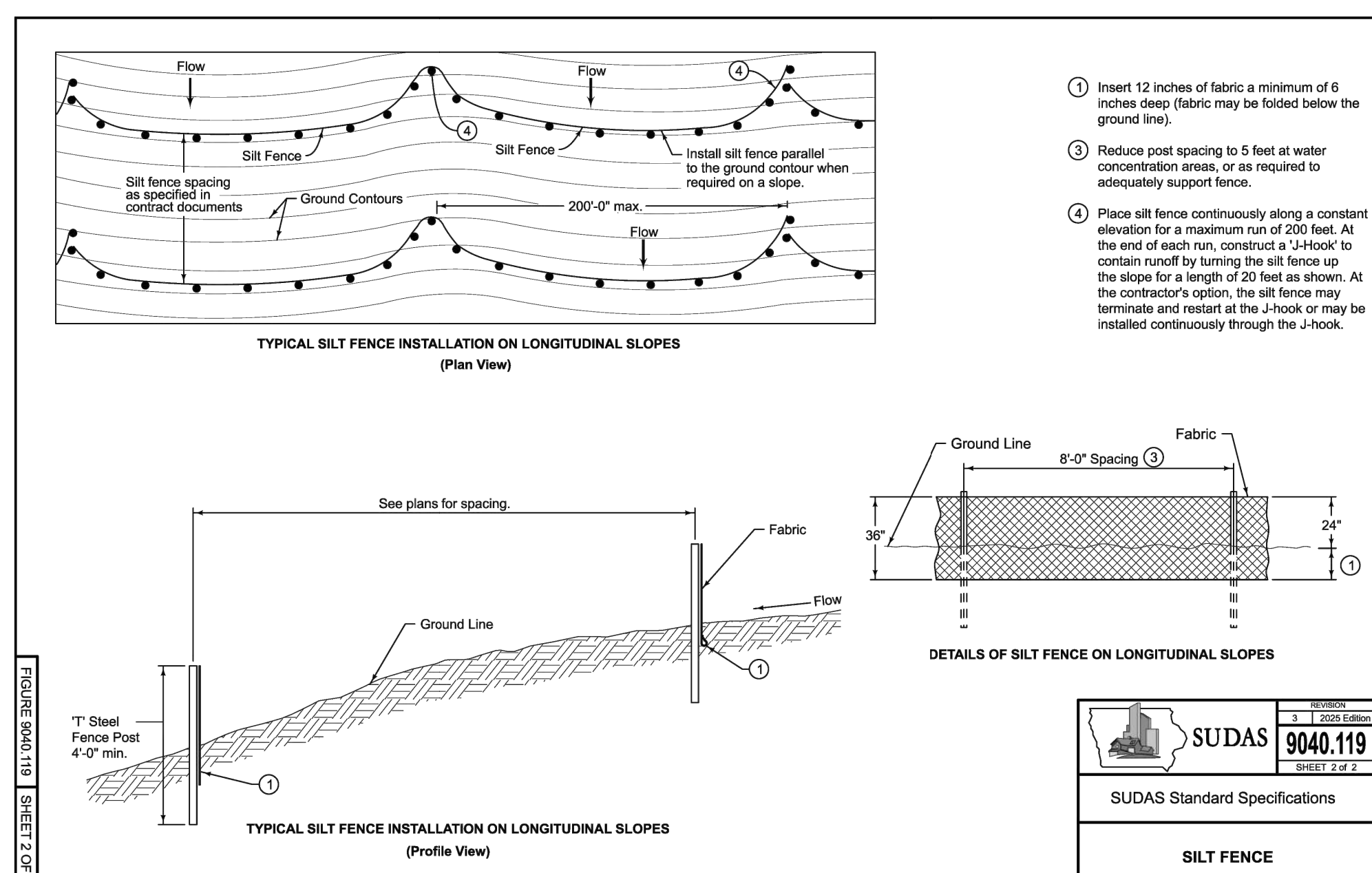


- GENERAL NOTES:**
1. SECURE POLYETHYLENE LINING WITH UV-STABILIZED GEOTEXTILE FABRIC SANDBAGS.
  2. POLYETHYLENE LINING SHALL BE 10MM MIN. AND FREE OF HOLES, TEARS, OR OTHER DEFECTS. THE SHEET SHALL BE APPROPRIATELY SIZED TO FIT THE ENTIRE WASHOUT SYSTEM WITHOUT SEAMS OR OVERLAPS. REPLACE LINER AS NECESSARY.
  3. EXCAVATION SHALL BE A 10x10' MIN. AND SIZED TO CONTAIN ALL LIQUID AND WASTE EXPECTED TO BE GENERATED.

**CONCRETE WASHOUT**  
NOT TO SCALE

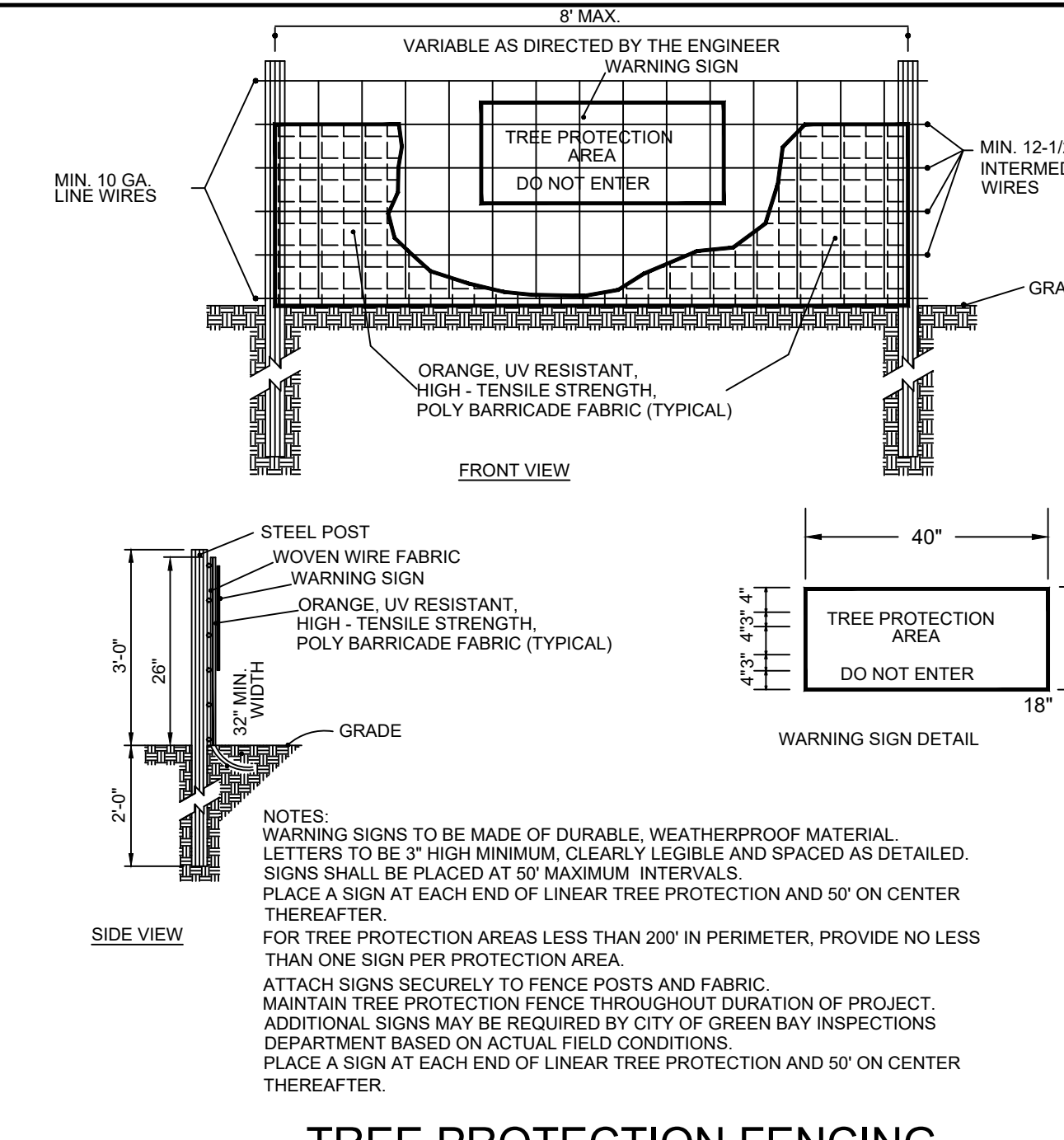


**SUDAS 9040.119**  
SUDAS Standard Specifications  
**SILT FENCE**



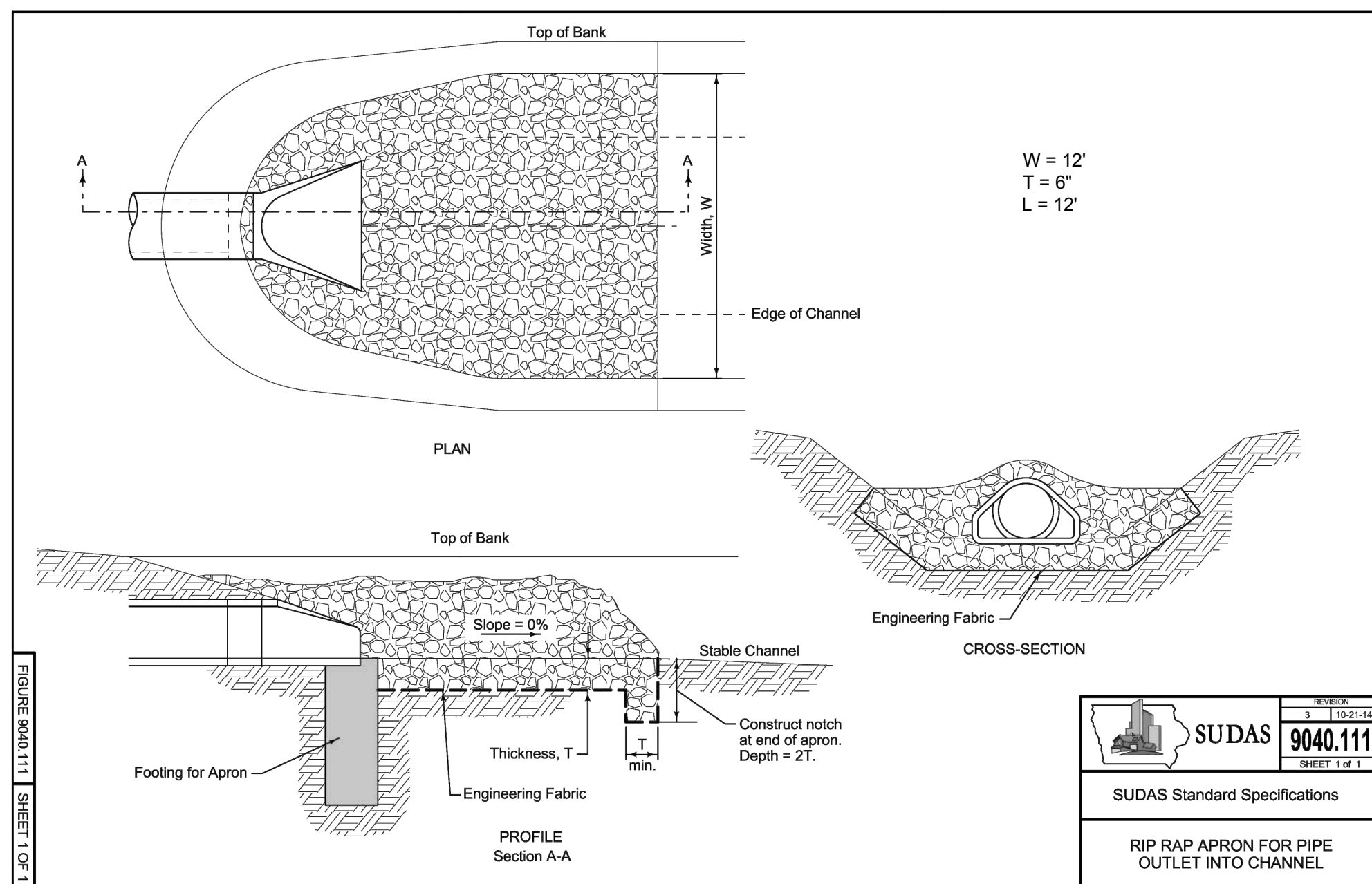
1. Insert 12 inches of fabric a minimum of 6 inches deep (fabric may be folded below the ground line).
2. Reduce post spacing to 5 feet at water concentration areas, or as required to adequately support fence.
3. Place all fence continuously along a constant elevation for a maximum run of 200 feet. At the end of each run, construct a J-hook to contain runoff by turning the silt fence up the slope for a length of 20 feet as shown. At the contractor's option, the silt fence may terminate and rest at the J-hook or may be installed continuously through the J-hook.

**SUDAS 9040.119**  
SUDAS Standard Specifications  
**SILT FENCE**

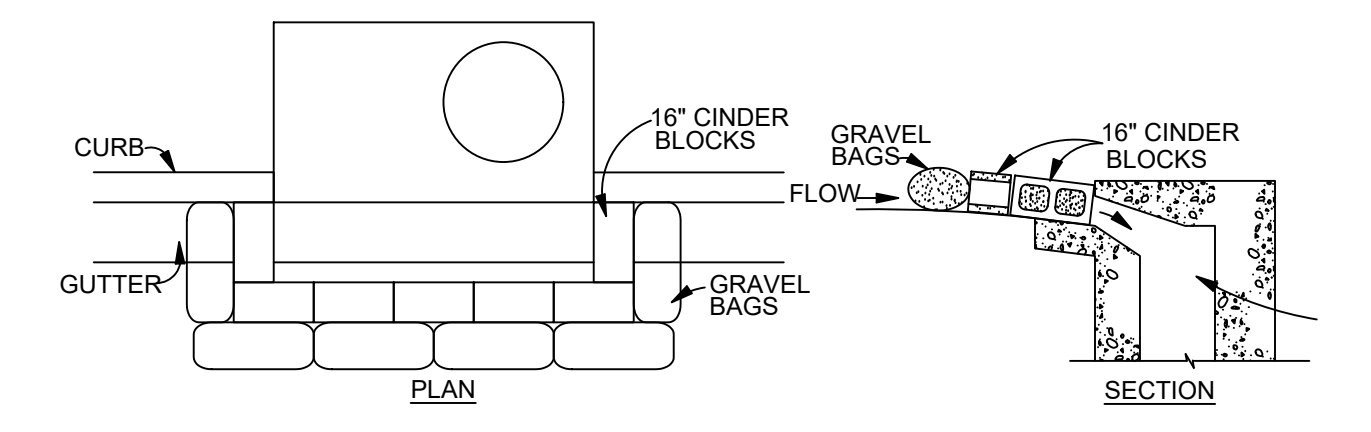


- NOTES:**
- WARNING SIGNS TO BE MADE OF DURABLE, WEATHERPROOF MATERIAL. LETTERS TO BE 3" HIGH MINIMUM, CLEARLY LEGIBLE AND SPACED AS DETAILED. SIGNS SHALL BE PLACED AT 60' MAXIMUM INTERVALS. PLACE A SIGN AT EACH END OF LINEAR TREE PROTECTION AND 50' ON CENTER THEREAFTER.
  - FOR TREE PROTECTION AREAS LESS THAN 200' IN PERIMETER, PROVIDE NO LESS THAN ONE SIGN PER PROTECTION AREA.
  - ATTACH SIGNS SECURELY TO FENCE POSTS AND FABRIC.
  - MAINTAIN TREE PROTECTION FENCE THROUGHOUT DURATION OF PROJECT. ADDITIONAL SIGNS MAY BE REQUIRED BY CITY OF GREEN BAY INSPECTIONS DEPARTMENT BASED ON ACTUAL FIELD CONDITIONS.
  - PLACE A SIGN AT EACH END OF LINEAR TREE PROTECTION AND 50' ON CENTER THEREAFTER.

**TREE PROTECTION FENCING**  
NOT TO SCALE



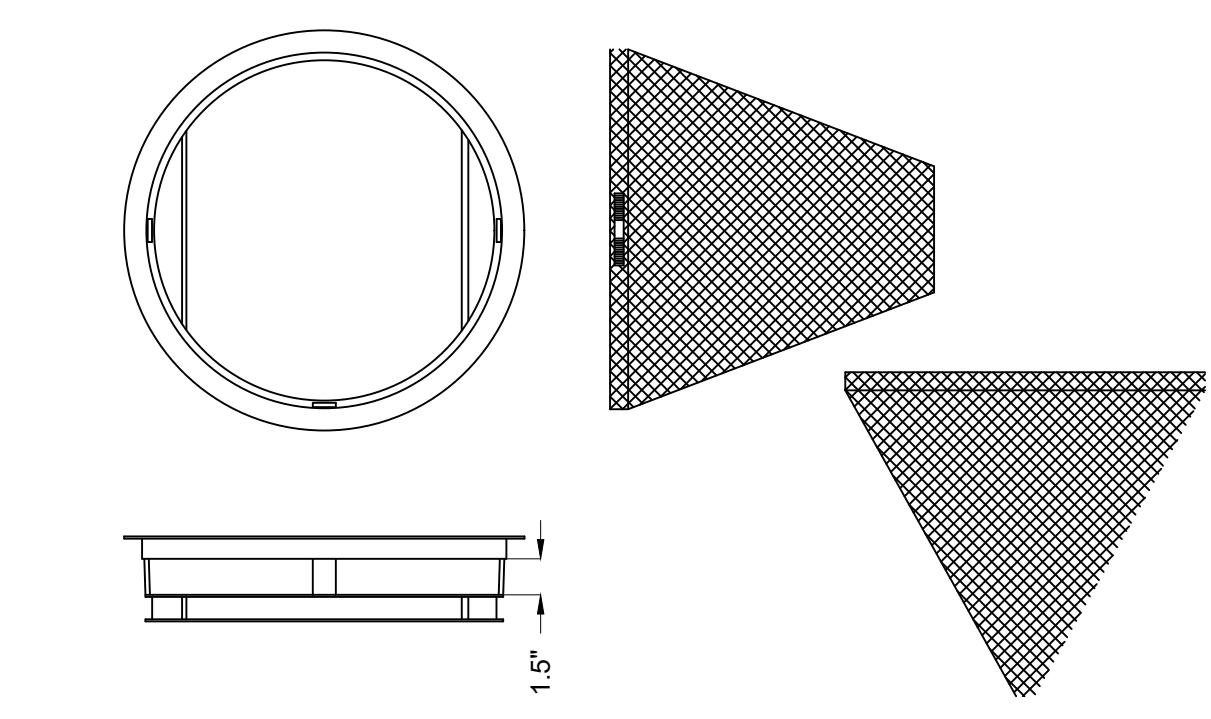
**SUDAS 9040.111**  
SUDAS Standard Specifications  
**RIP RAP APRON FOR PIPE OUTLET INTO CHANNEL**



- BLOCK AND GRAVEL BAG CURB INLET PROTECTION NOTES**
- INSTALLATION REQUIREMENTS**
1. INLET PROTECTION SHALL BE INSTALLED IMMEDIATELY AFTER CONSTRUCTION OF INLET.
  2. CONCRETE BLOCKS ARE TO BE LAID AROUND THE INLET IN A SINGLE ROW ON THEIR SIDES, ABUTTING ONE ANOTHER WITH THE OPEN ENDS OF THE BLOCK FACING OUTWARD.
  3. GRAVEL BAGS ARE TO BE PLACED AROUND THE CONCRETE BLOCKS CLOSELY ABUTTING ONE ANOTHER SO THERE ARE NO GAPS.
  4. GRAVEL BAGS ARE TO CONTAIN WASHED SAND OR GRAVEL APPROXIMATELY 3/4 INCH IN DIAMETER.
  5. BAGS ARE TO BE MADE OF 1/4" INCH WIRE MESH (USED WITH GRAVEL ONLY) OR GEOTEXTILE.
- MAINTENANCE REQUIREMENTS**
1. CONTRACTOR SHALL INSPECT INLET PROTECTION IMMEDIATELY AFTER EACH RAINFALL, AT LEAST DAILY DURING PROLONGED RAINFALL, AND WEEKLY DURING PERIODS NO RAINFALL.
  2. DAMAGED OR INEFFECTIVE INLET PROTECTION SHALL PROMPTLY BE REPAIRED OR REPLACED.
  3. SEDIMENT SHALL BE REMOVED WHEN SEDIMENT HAS ACCUMULATED TO APPROXIMATELY 1/2 THE DESIGN DEPTH OF THE TRAP.
  4. INLET PROTECTION SHALL BE REMOVED WHEN ADEQUATE VEGETATIVE COVER IS ATTAINED WITHIN THE DRAINAGE AREA AS APPROVED BY THE CITY.

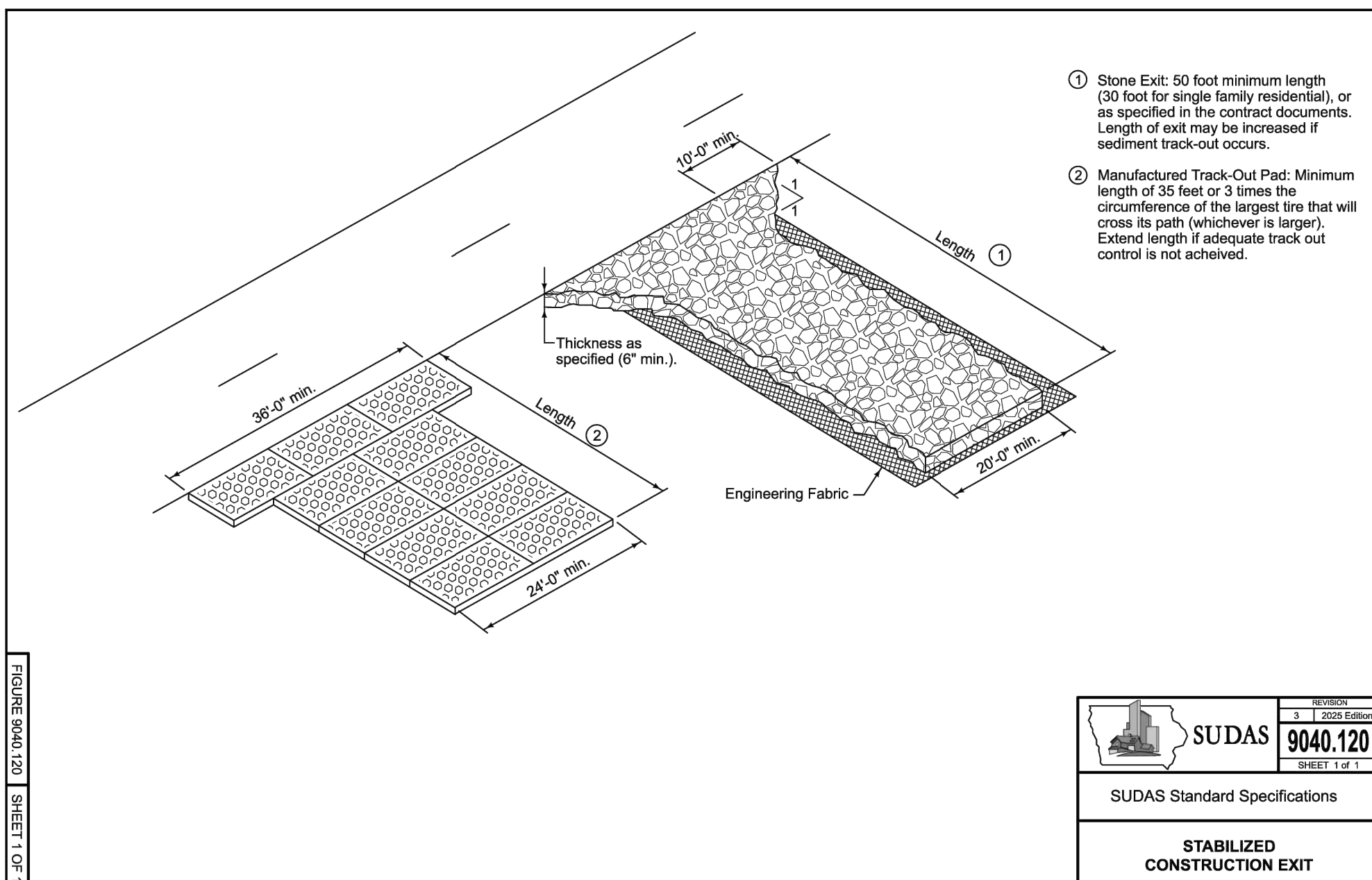
AN ALTERNATE 3/4" TO 1" GRAVEL FILTER OVER A WIRE SCREEN MAY BE USED IN PLACE OF GRAVEL BAGS. THE WIRE MESH SHALL EXTEND ABOVE THE TOP OF THE CONCRETE BLOCKS AND THE GRAVEL PLACED OVER THE WIRE SCREEN TO THE TOP OF THE CONCRETE BLOCKS.

**CURB INLET PROTECTION**  
N.T.S.



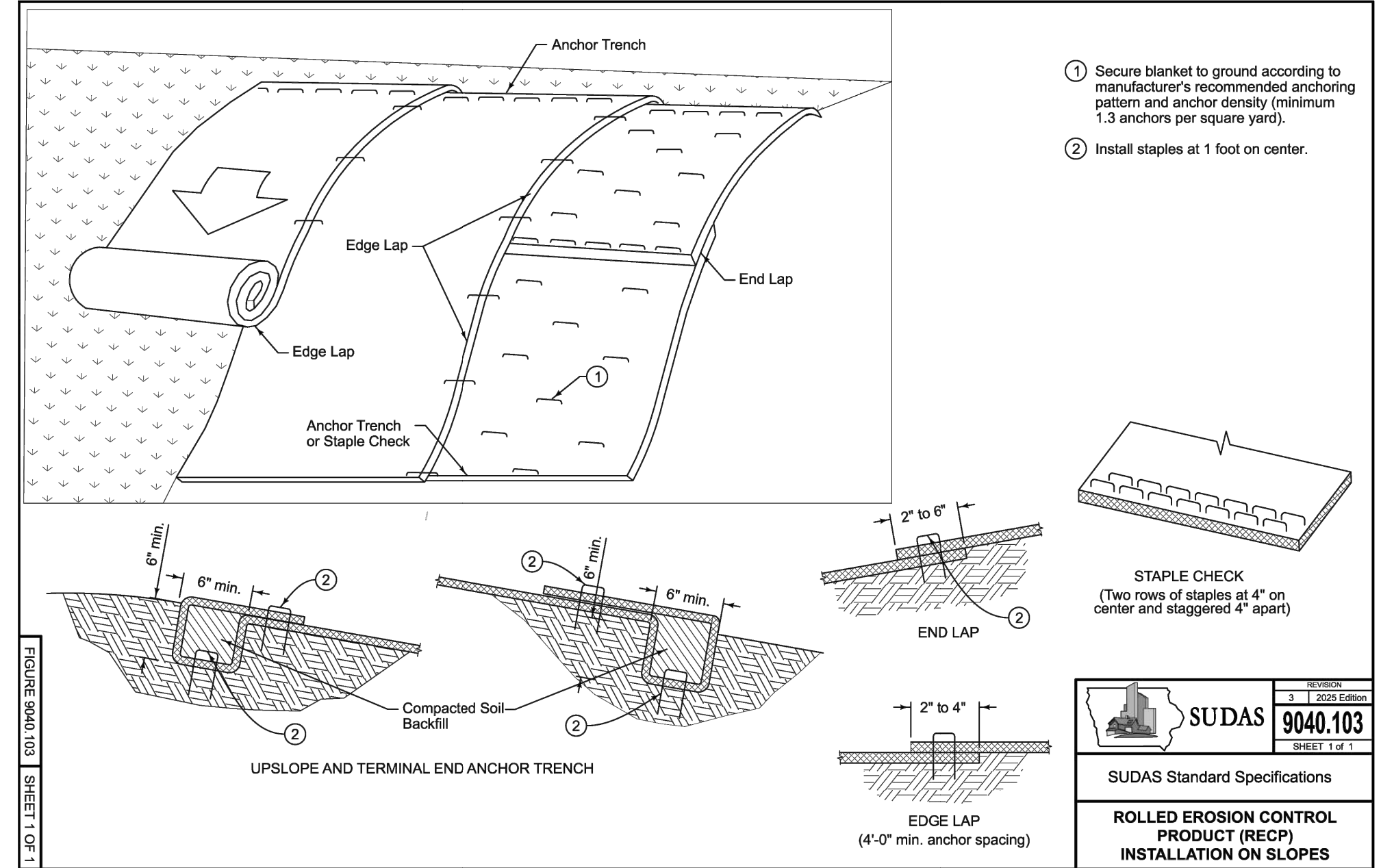
- GENERAL NOTES:**
- FRAME: TOP FLANGE FABRICATED FROM 1" X 1" X 1/8" ANGLE. BASE RIM FABRICATED FROM 1" X 1/2" X 1/8" CHANNEL. HANDLES AND SUSPENSION BRACKETS FABRICATED FROM 1" X 1/2" X 1/8" PLAT STOCK. ALL DOMESTIC STEEL CONFORMING TO ASTM A36. SEDIMENT BAG: BAG FABRICATED FROM 4 OZ/SQ. YD. NON-WOVEN POLYPROPYLENE GEOTEXTILE REINFORCED WITH POLYESTER MESH. BAG SECURED TO BASE RIM WITH A STAINLESS STEEL STRAP AND LOCK.

**TYPICAL INLET PROTECTION**  
N.T.S.



1. Stone Exit: 50 foot minimum length (30 feet for single family residential), or as specified in the contract documents. Length of exit may be increased if sediment track-out occurs.
2. Manufactured Track-Out Pad: Minimum length of 30 feet or 3 times the circumference of the largest tire that will cross its path (whichever is larger). Exceed length if adequate track out control is not achieved.

**SUDAS 9040.120**  
SUDAS Standard Specifications  
**STABILIZED CONSTRUCTION EXIT**



1. Secure blanket to ground according to manufacturer's recommended anchoring pattern and anchor density (minimum 1.3 anchors per square yard).
2. Install staples at 1 foot on center.

**SUDAS 9040.103**  
SUDAS Standard Specifications  
**ROLLED EROSION CONTROL PRODUCT (RECP) INSTALLATION ON SLOPES**

**ERTEC® Slot Guard™ - Installation Guide** - For slotted or trench drain inlets with grates in paved areas

**Installation Notes**

1. **Placement:** Select correct size (Table 1). Lay the Slot Guard™ on top of the slot or trench drain grate. For safety, assure that grate is in place. Do not remove grate.
2. **Anchor method:** Attach with 16 gauge tie wire every 2.5 linear feet (Fig. 1). Cut wire to 12" lengths. Feed one end of wire down thru Slot Guard™, around grate bar, and back-up thru Slot Guard™. Above ground, pull tight and twist wires several times. Cut off excess and bend twisted nub down.
3. **Overlap:** Slot Guard™ segments overlap for long slot/trench drains.
4. **Clean:** Accumulation of leaves, debris and sediment can cause backups! Clean after every storm or as necessary.
5. **Protect:** In stop and go traffic areas where exposed to constant the abuse, it is useful to place traffic cones or delineators on or near Slot Guard to discourage run-overs. Slot Guard™ works well with periodic run-overs, but does not survive long in constant stop and start traffic.

**Table 1**

Slot/Trench drains up to:	SG Size
6" width	SG 84x65
12" width	SG 84x12
18" width	SG 84x15
20" width	SG 84x20

**Fig. 1**

**Staple Check:** (Two rows of staples at 4" on center staggered 4" apart)

**End Lap:** 2" to 4"

**Edge Lap:** 4"-0" min. anchor spacing

**Water Seal:** 16 gauge tie-wire Install every 2.5 feet

**Water Seal Extends past Drain & Filter**

**Core for excellent contact with surface**

**Drain & Filter Core**

**Maintenance:** Perform maintenance as required. Inspect following rainfall events and at least daily during prolonged rainfall. Monitor to provide an adequate sediment holding capacity. Sediment shall be removed daily and sediment shall be removed when sediment accumulation reaches 50% of the barrier height. Removed sediment shall be incorporated in the project at designated locations.

**Important:** All information, including illustrations, is believed to be complete. Users, however, should independently evaluate the suitability of each product for their application. ERTEC Environmental Systems makes no warranty as to the accuracy or completeness of this information, and disclaims any liability regarding its use. ERTEC Environmental System's only obligation are those in the ERTEC Environmental System Standard Terms and Conditions of Sale for this product, and no case of ERTEC Environmental System or its distributor be liable for any indirect, incidental or consequential damages arising from the sale, rental, use or misuse of the product. Specifications are subject to change without notice. In addition, ERTEC Environmental System reserves the right to make changes without notification to items to processing or materials which do not affect compliance with any applicable specifications.

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1100 Redden Road, Suite 250  
Alpharetta, GA 30009  
P: 800-221-0724  
F: 404-553-2825  
www.ertecsystems.com

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**ERTEC - Installation Guide - Slot Guard.pdf**

Scale:	None	Sheet No.:	1 of 1
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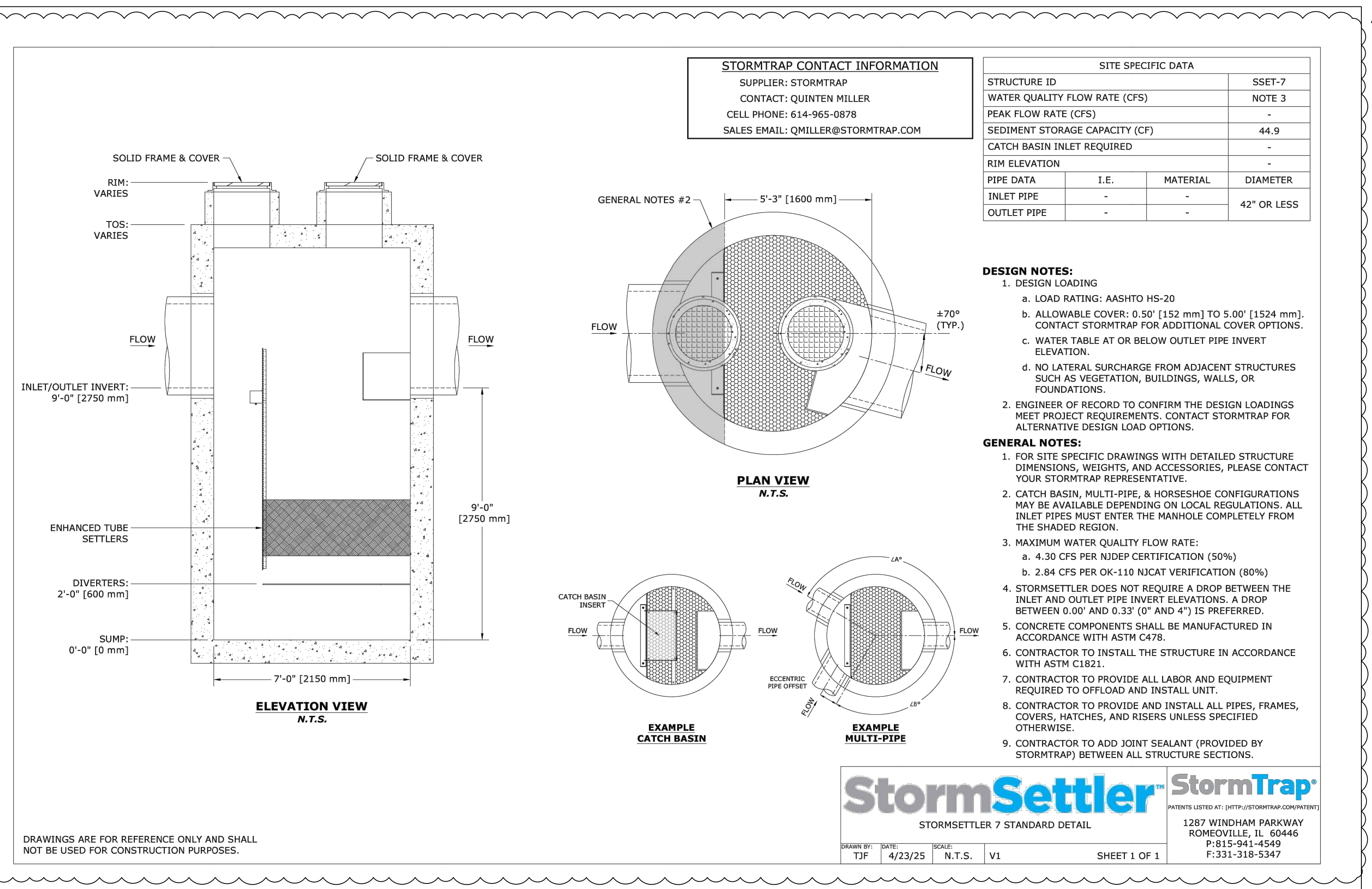
NO.	DATE	REVISION
08/23/25	08/23/25	SITE PLAN REVIEW
08/23/25	08/23/25	SITE PLAN 2ND REVIEW

PROJECT NUMBER: RUS-25008152-A0  
PROJECT DATE: 08/23/25  
DRAWN BY: MMW  
CHECKED BY: NSK  
SCALE: AS SHOWN

DRAWING TITLE  
**CIVIL**  
SWPP DETAILS

DRAWING NUMBER  
**C-502**

PRELIMINARY PLANS - NOT FOR CONSTRUCTION



**StormSettler StormSettler Inspection Checklist**

Structure ID: \_\_\_\_\_ Weather Conditions: \_\_\_\_\_  
 Date: \_\_\_\_\_ Rain in the last 48 hours? Yes No  
 Time: \_\_\_\_\_ If yes, list amount & timing: \_\_\_\_\_  
 Location/Address: \_\_\_\_\_ Inspector Name: \_\_\_\_\_  
 Email: \_\_\_\_\_  
 Phone: \_\_\_\_\_

\* Do not enter underground chambers to inspect system unless Occupational Safety & Health Administration (OSHA) regulations for confined space entry are followed.  
 \* Follow inspection and maintenance instructions provided by system manufacturer.  
 \* Please circle the condition of each inspection item below. 1 being the worst and 5 being the best condition.

Inspection Item	Condition	Comment	Action Needed
<b>Frames and Covers</b>			
Accumulation of debris and/or sediment	1 2 3 4 5		Yes No
Component(s) structural condition	1 2 3 4 5		Yes No
<b>Inlet Pipe(s)</b>			
Accumulation of debris and/or sediment	1 2 3 4 5		Yes No
Component(s) structural condition	1 2 3 4 5		Yes No
<b>Vortex Disruptor</b>			
Accumulation of debris and/or sediment	1 2 3 4 5		Yes No
Component(s) structural condition	1 2 3 4 5		Yes No
<b>Vertical Baffle</b>			
Accumulation of debris and/or sediment	1 2 3 4 5		Yes No
Component(s) structural condition	1 2 3 4 5		Yes No

1 PHONE 877.867.6872 WWW WWW.STORMTRAP.COM MAIL INFO@STORMTRAP.COM

**StormSettler StormSettler Inspection Checklist**

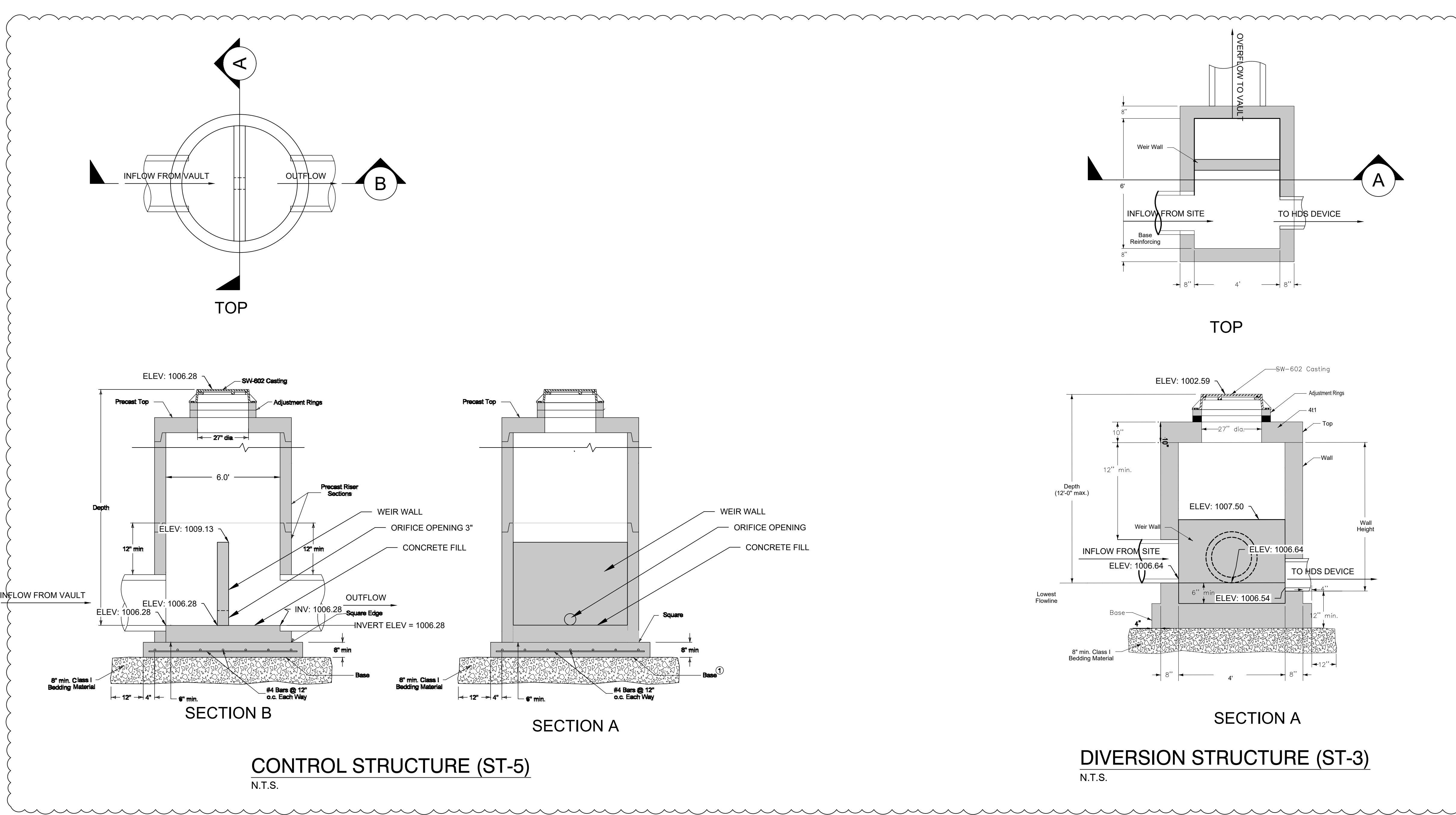
Inspection Item	Condition	Comment	Action Needed
<b>Enhanced Settling Pack</b>			
Accumulation of debris and/or sediment	1 2 3 4 5		Yes No
Component(s) structural condition	1 2 3 4 5		Yes No
<b>Flow Diverter (if applicable)</b>			
Accumulation of debris and/or sediment	1 2 3 4 5		Yes No
Component(s) structural condition	1 2 3 4 5		Yes No
<b>Flow Modifiers</b>			
Accumulation of debris and/or sediment	1 2 3 4 5		Yes No
Component(s) structural condition	1 2 3 4 5		Yes No
<b>Outlet Control Diverter</b>			
Excessive accumulation of debris and/or sediment present	1 2 3 4 5		Yes No
Component(s) structural condition	1 2 3 4 5		Yes No
<b>Outlet Pipe</b>			
Accumulation of debris and/or sediment	1 2 3 4 5		Yes No
Component(s) structural condition	1 2 3 4 5		Yes No
<b>Concrete Chamber</b>			
Component(s) structural condition	1 2 3 4 5		Yes No
<b>Sediment Storage Capacity</b>			
Sediment storage capacity	1 2 3 4 5		Yes No

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**StormSettler StormSettler Inspection Checklist**

Inspection Item	Condition	Comment	Action Needed
<b>Trash Capture Screen (if applicable)</b>			
Accumulation of debris and/or sediment	1 2 3 4 5		Yes No
<b>Oil Mat Screen (if applicable)</b>			
Accumulation of debris and/or sediment	1 2 3 4 5		Yes No
<b>Notes</b>			
<b>Wet Weather Inspection Needed</b>	Yes No		
<b>Maintenance Activities Needed</b>	Yes No		

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NO.	DATE	REVISION
	07/22/25	02 ISSUE
	08/26/25	SITE PLAN REVIEW
	09/12/25	75% ISSUE
	09/23/25	SITE PLAN 2ND REVIEW
	10/10/25	80% ISSUE
	10/22/25	SITE PLAN 3RD REVIEW

PROJECT NUMBER: RUS-25008152-A0  
 PROJECT DATE: 10/22/25  
 DRAWN BY: MMW  
 CHECKED BY: NSK  
 SCALE: AS SHOWN

DRAWING TITLE  
 CIVIL  
 DETAILS

DRAWING NUMBER  
**C-600**

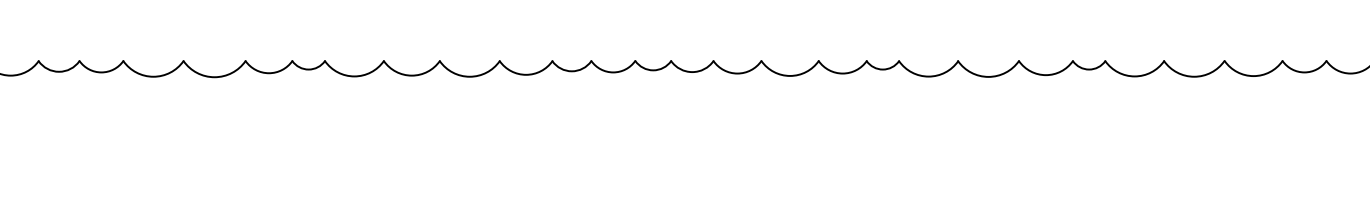
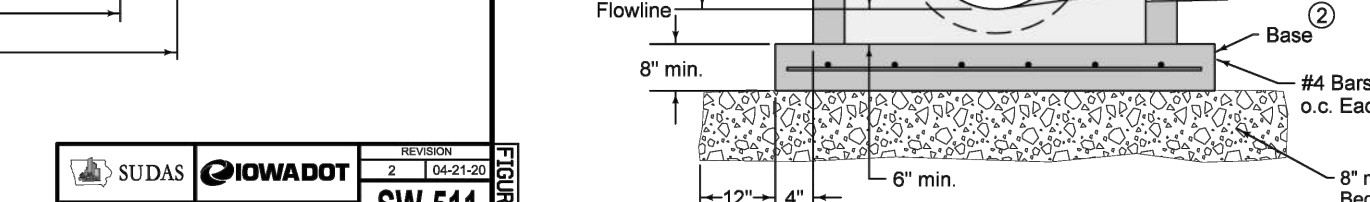
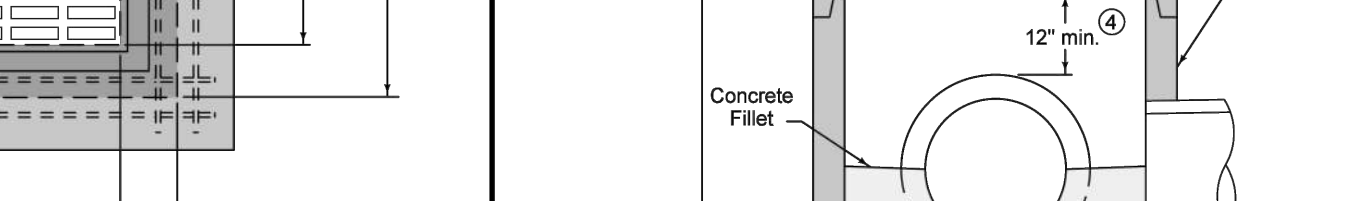
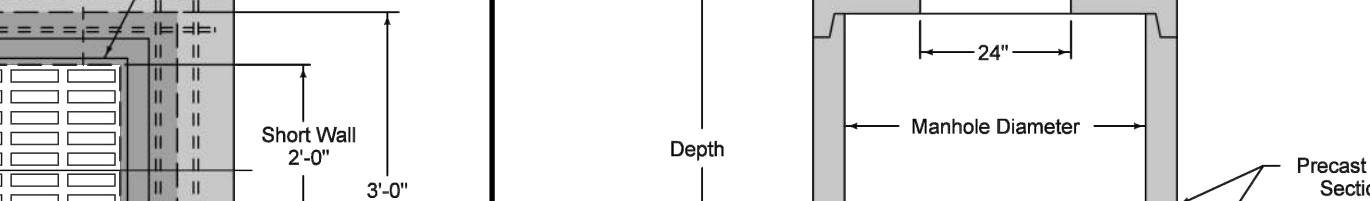
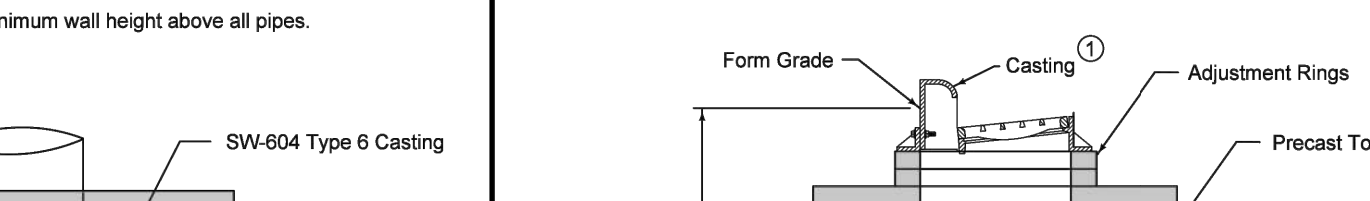
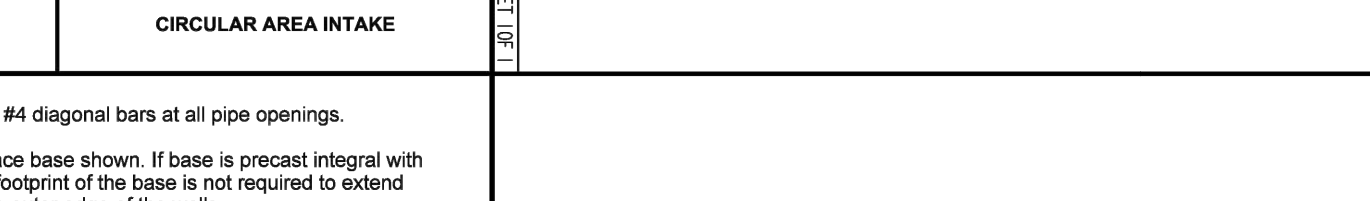
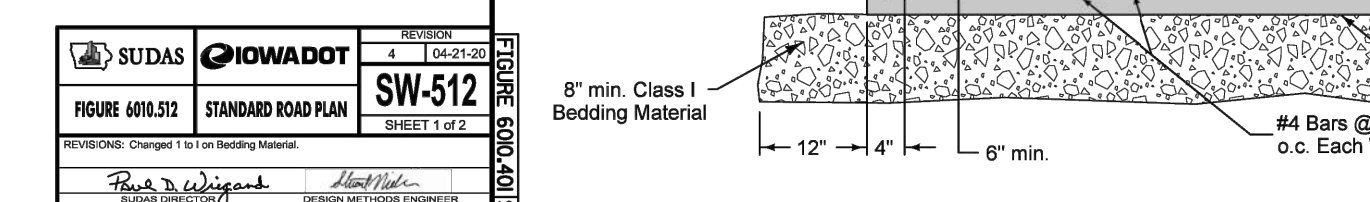
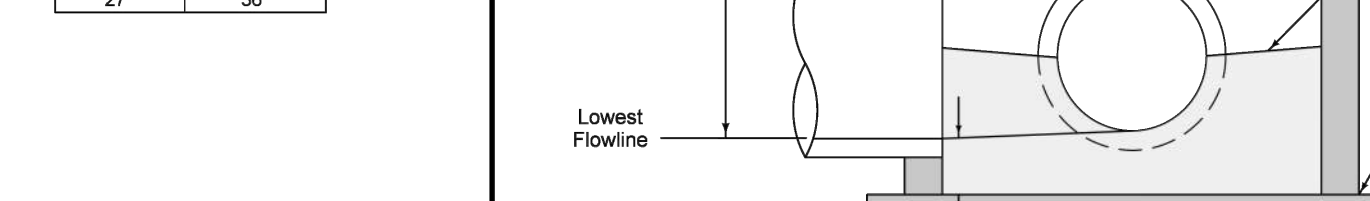
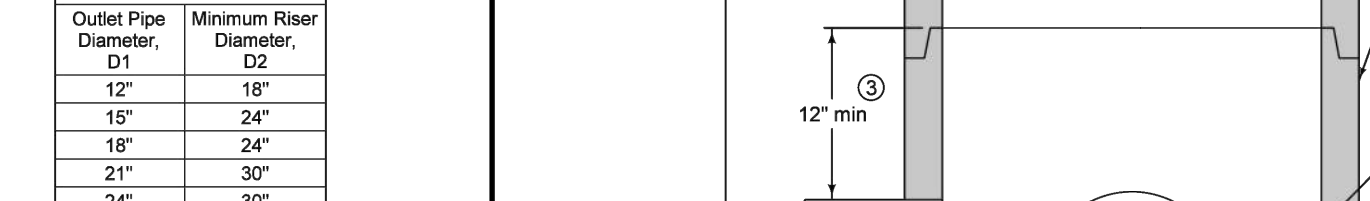
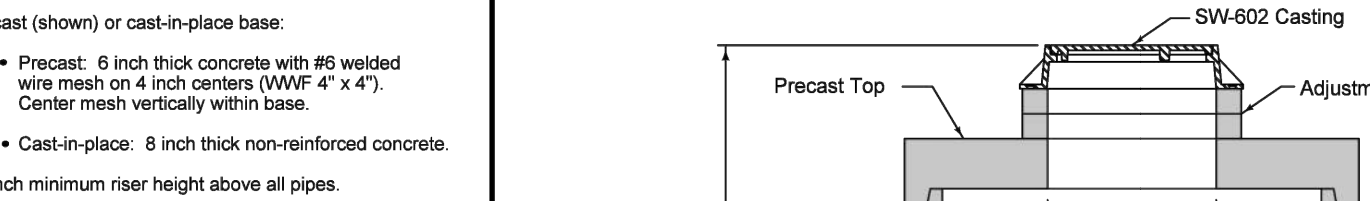
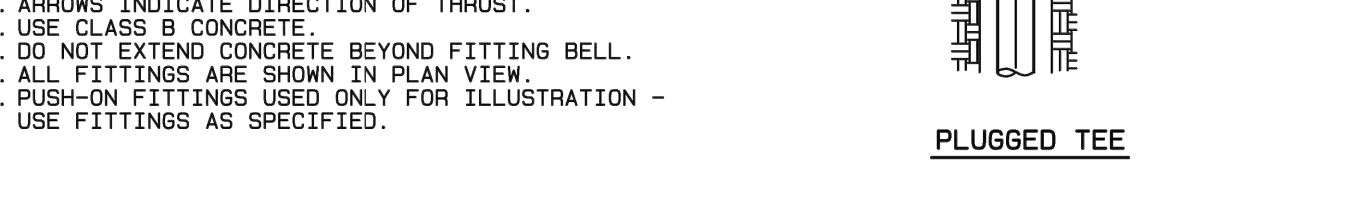
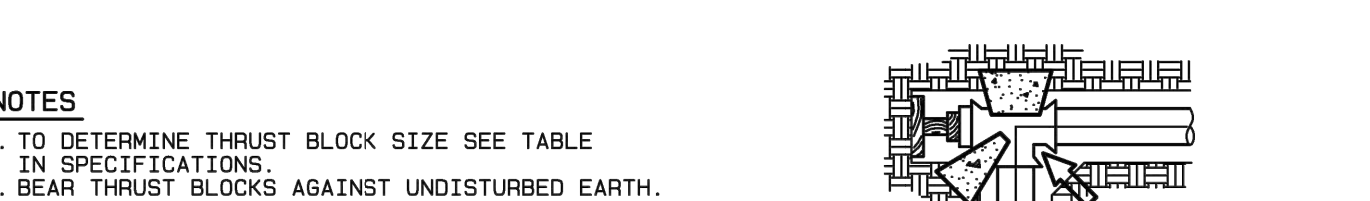
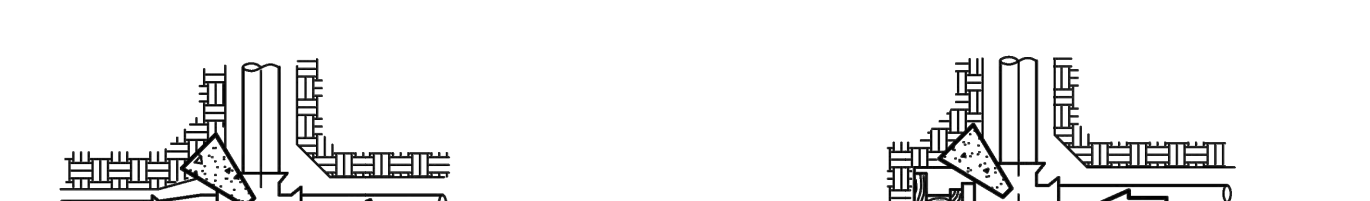
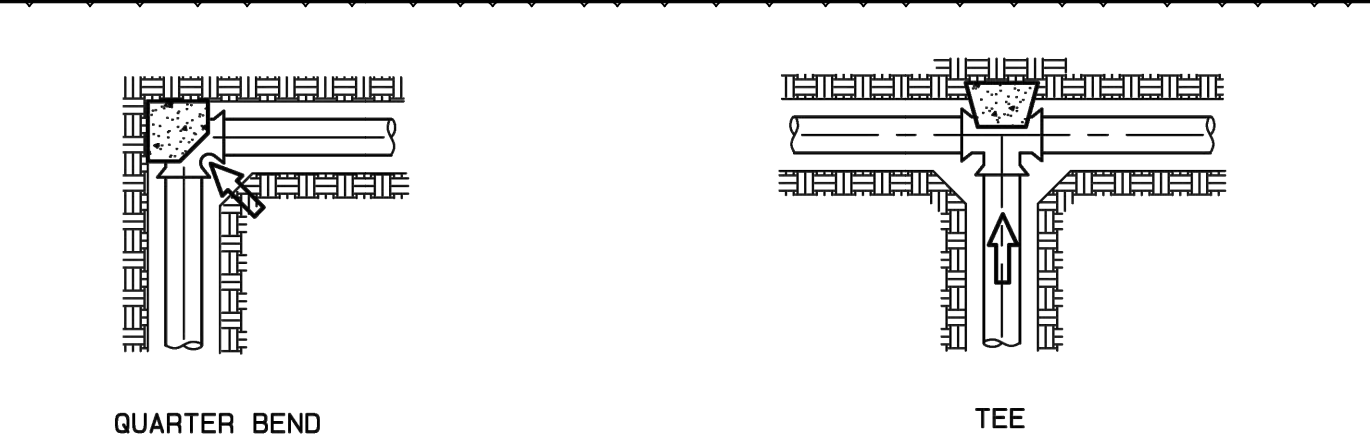
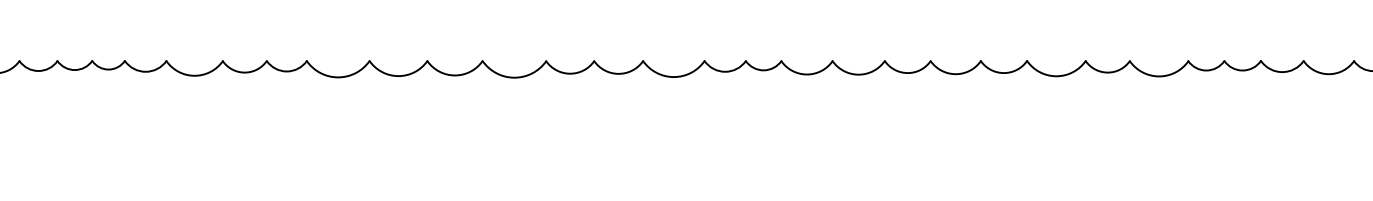
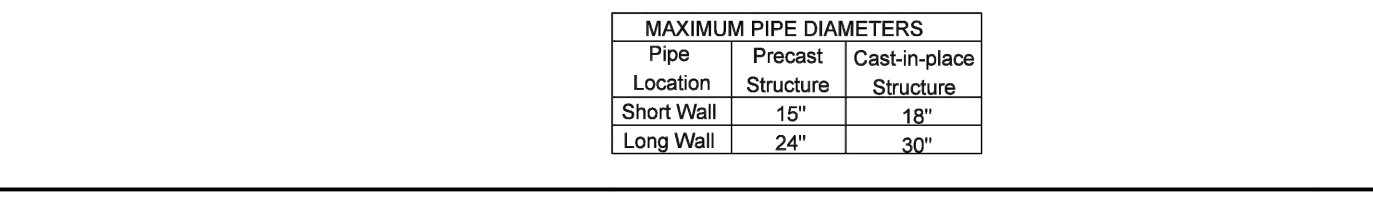
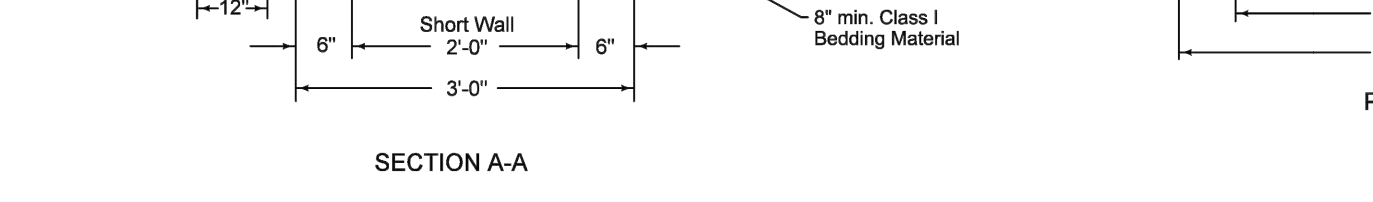
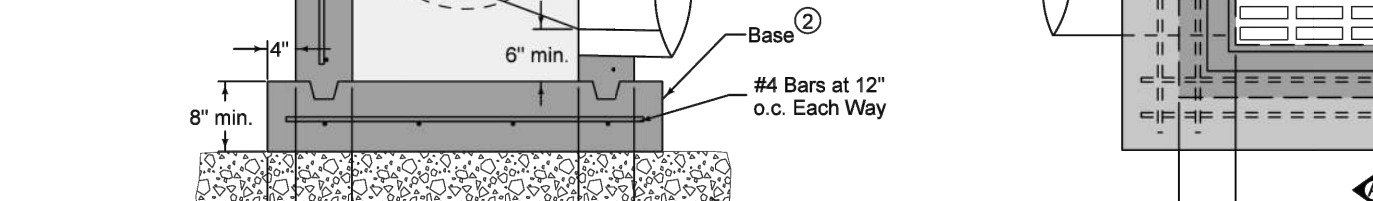
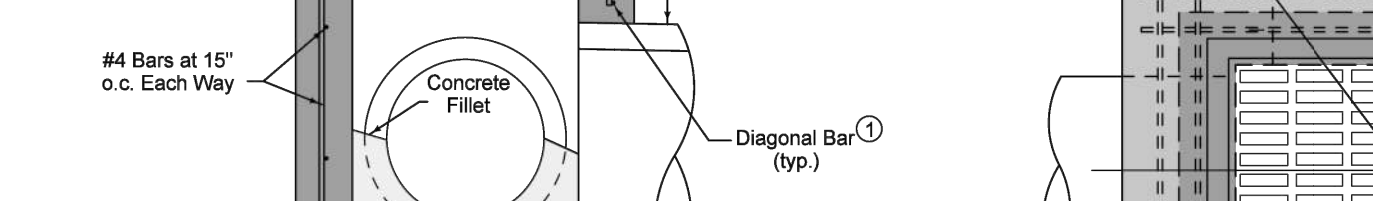
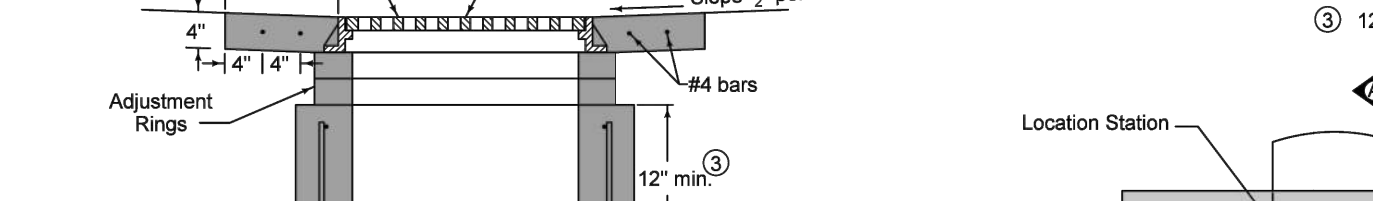
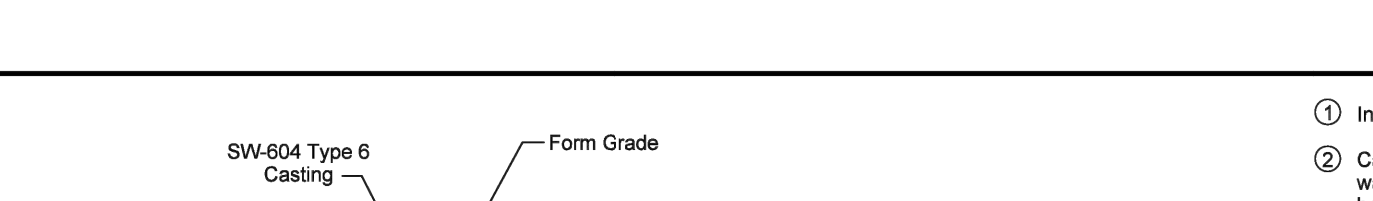
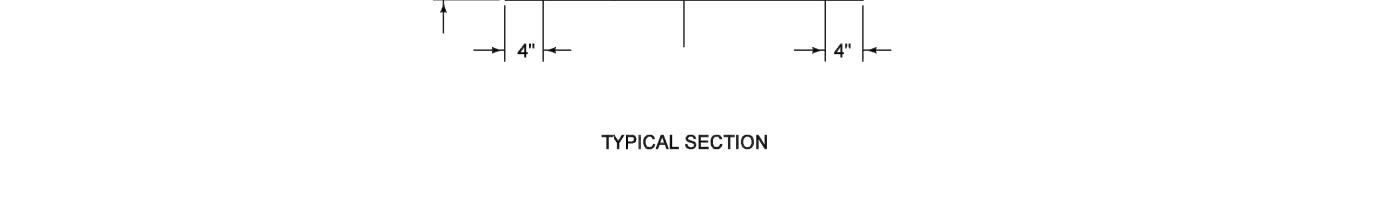
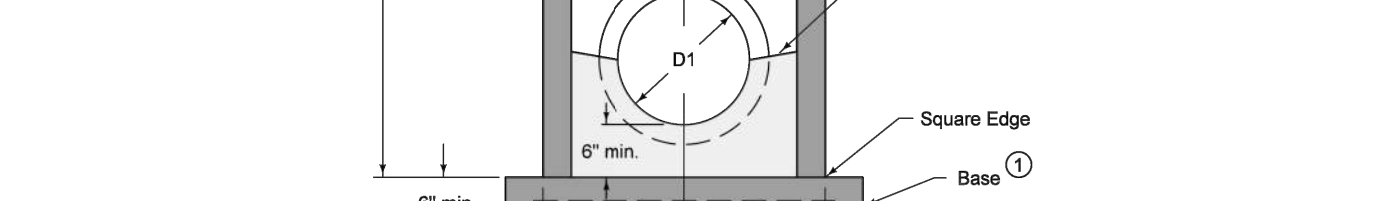
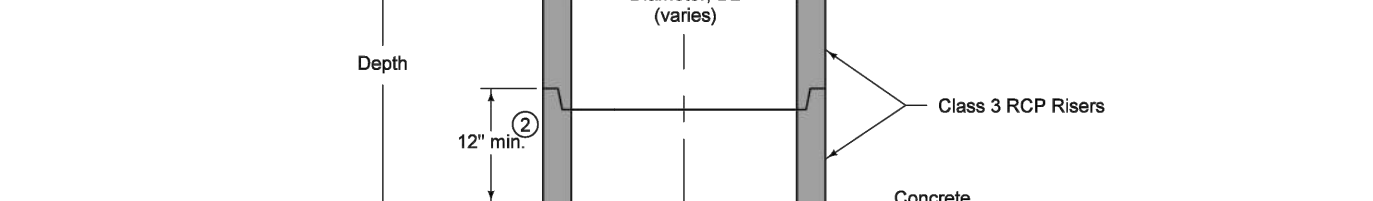
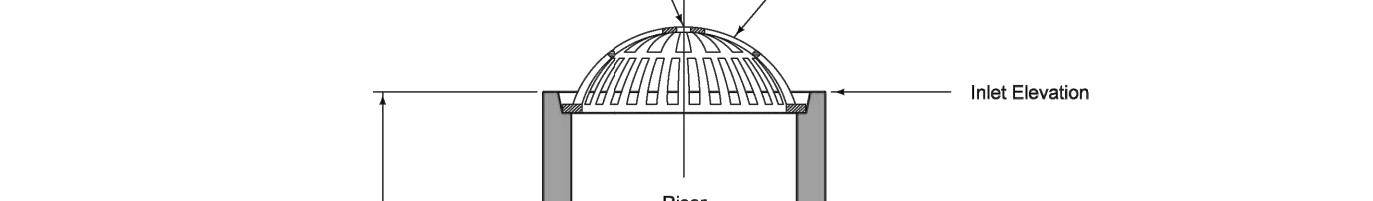
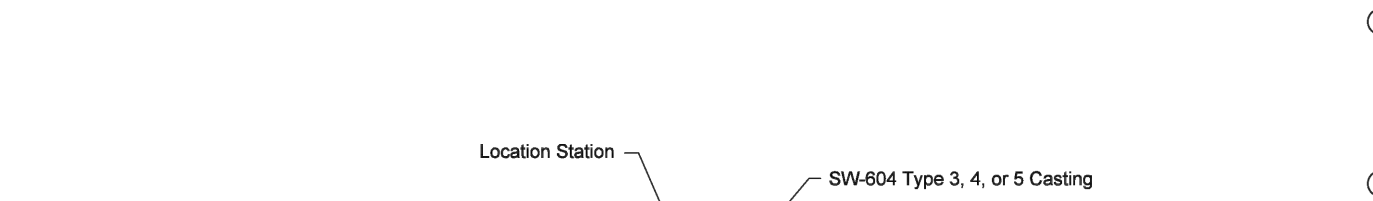
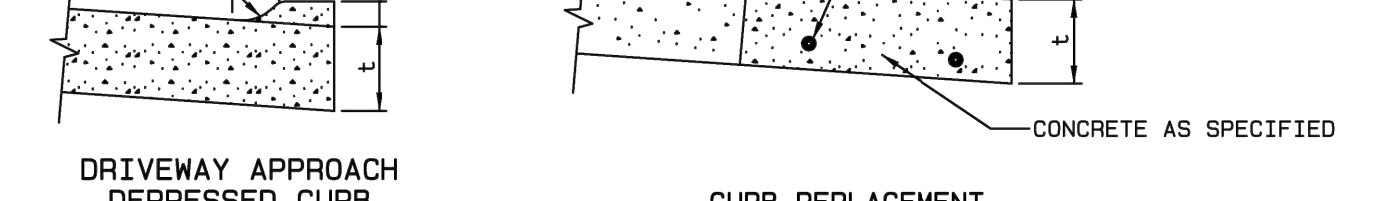
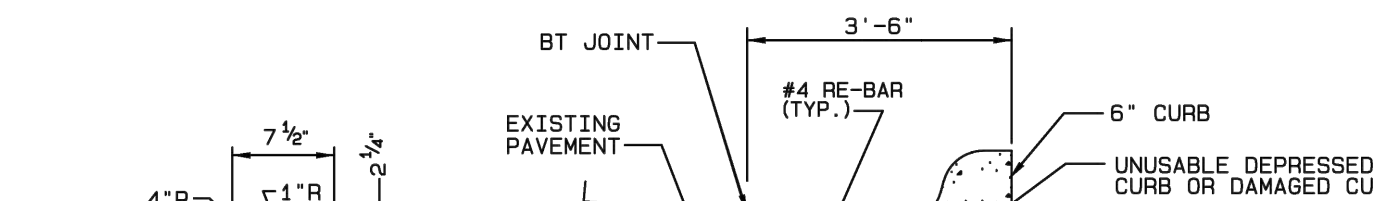
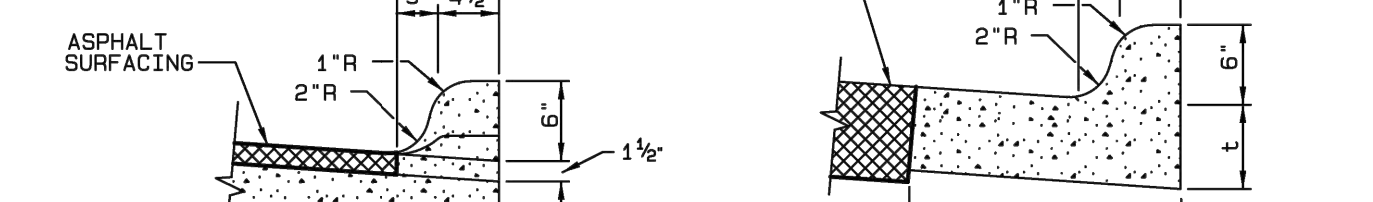
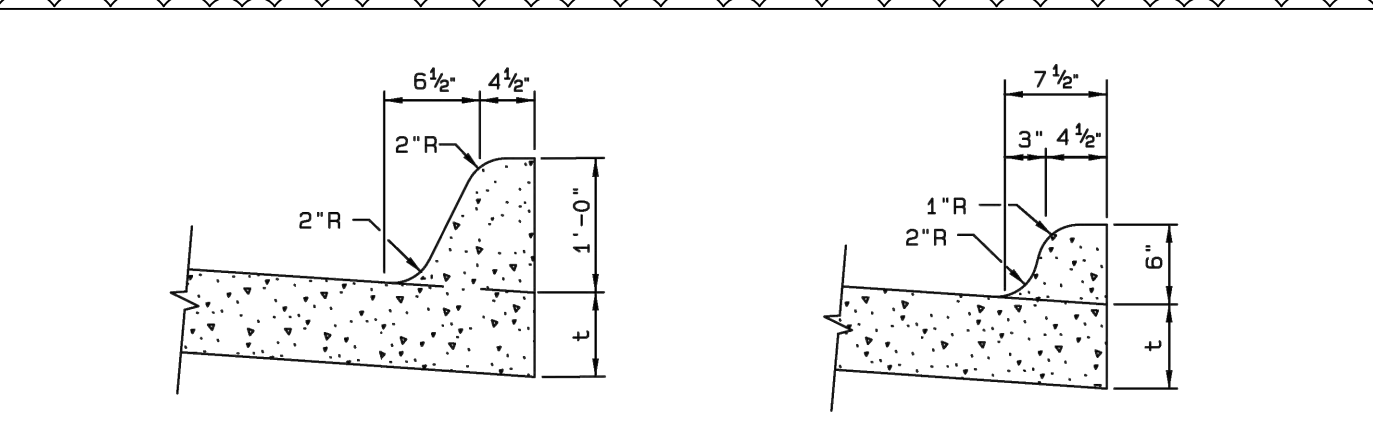
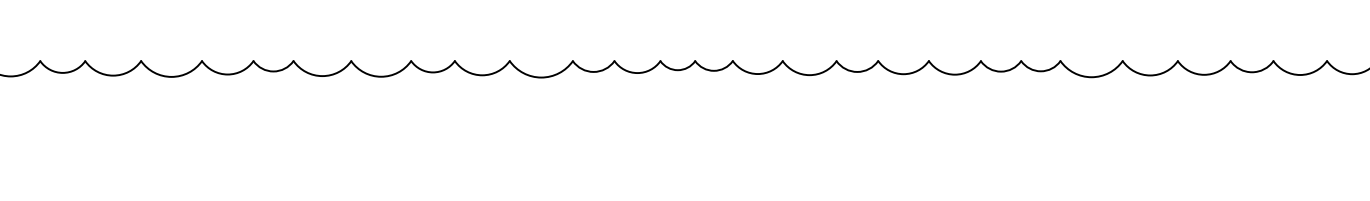
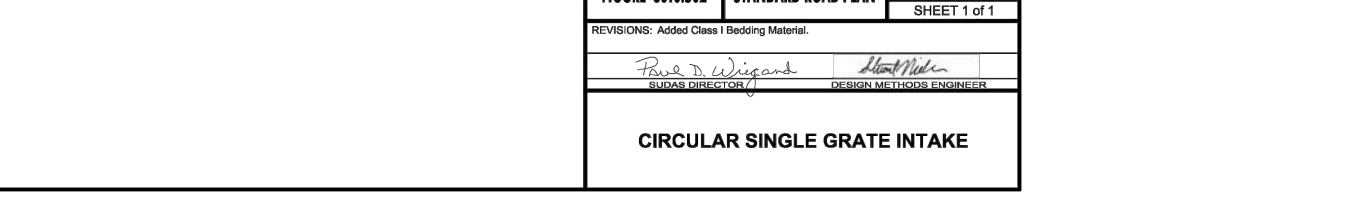
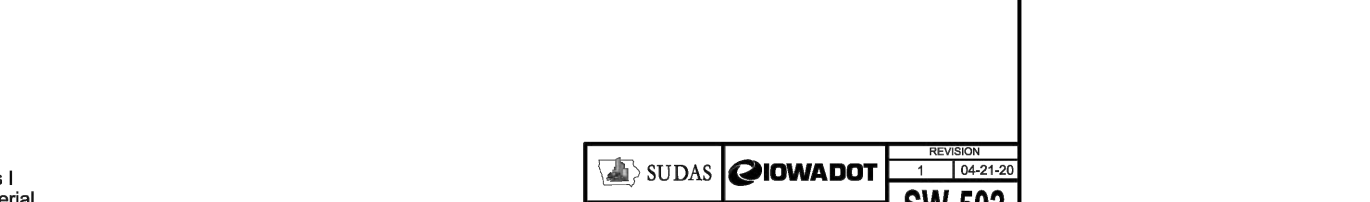
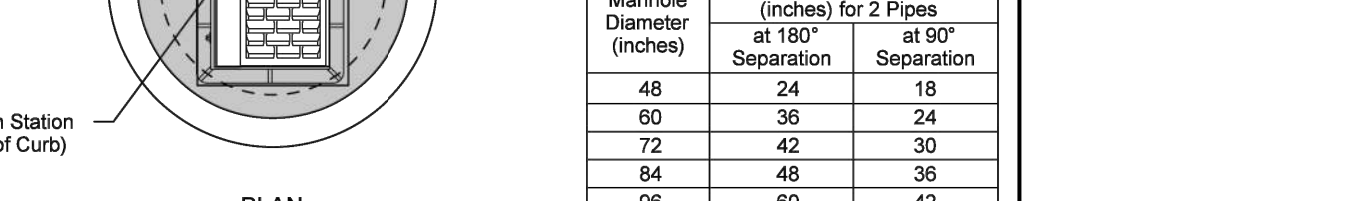
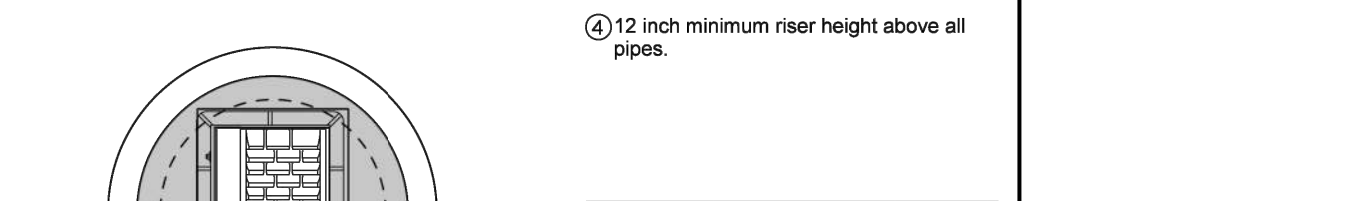
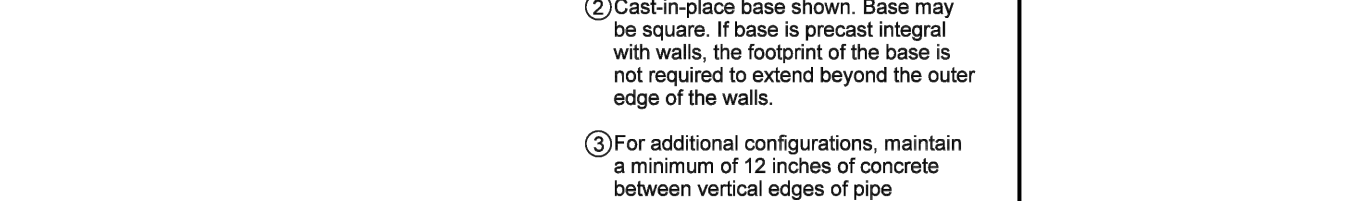
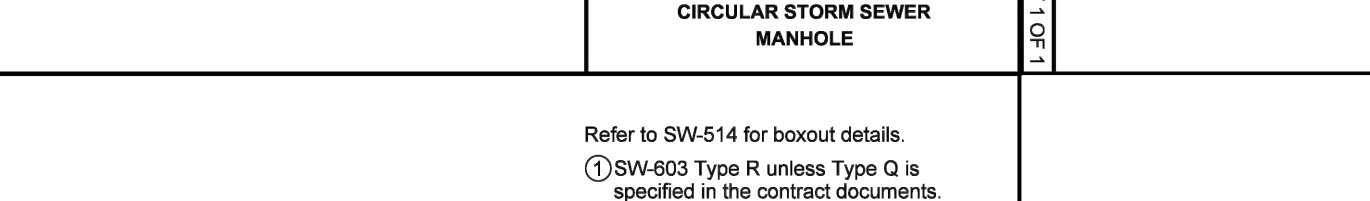
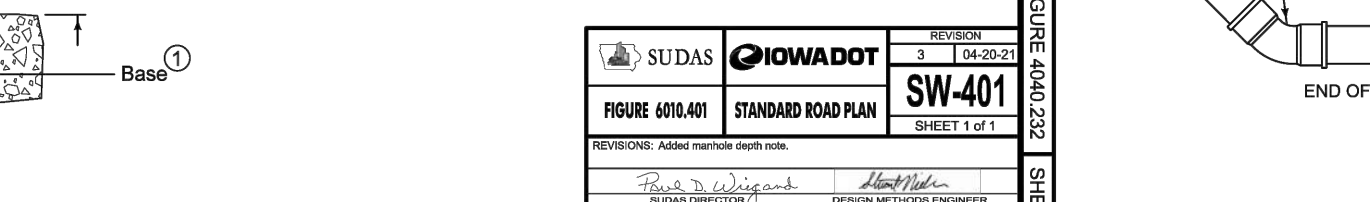
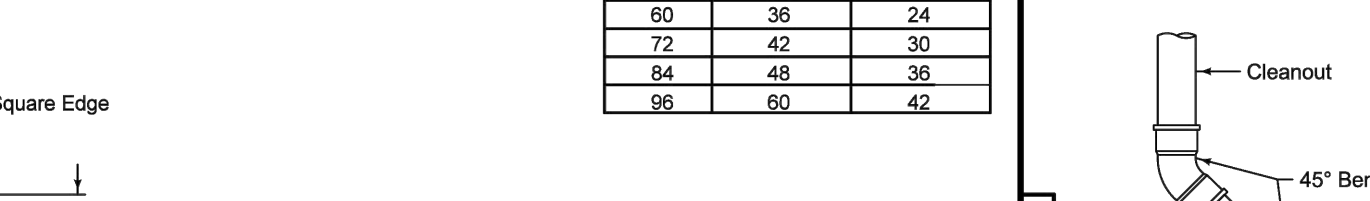
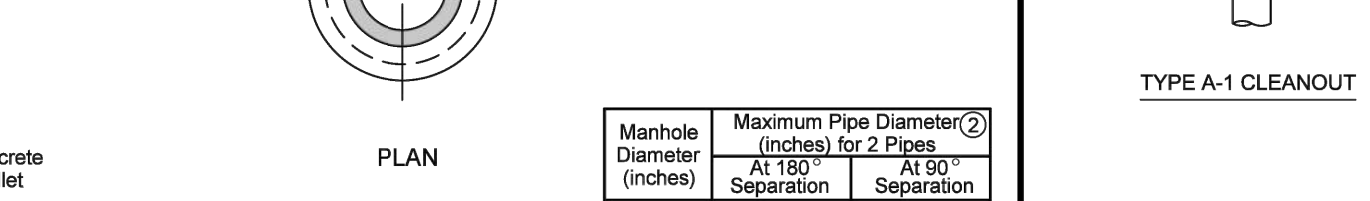
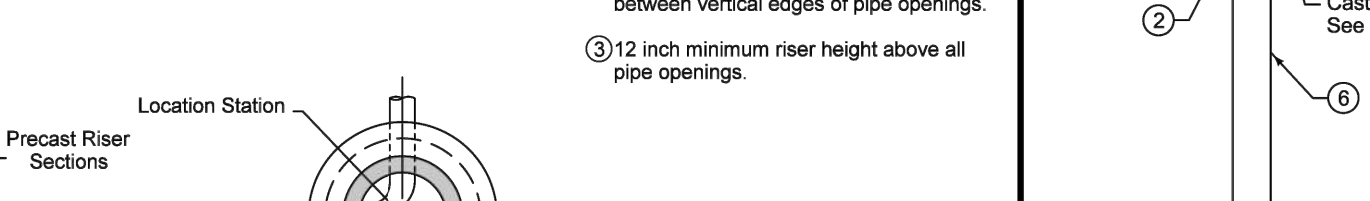
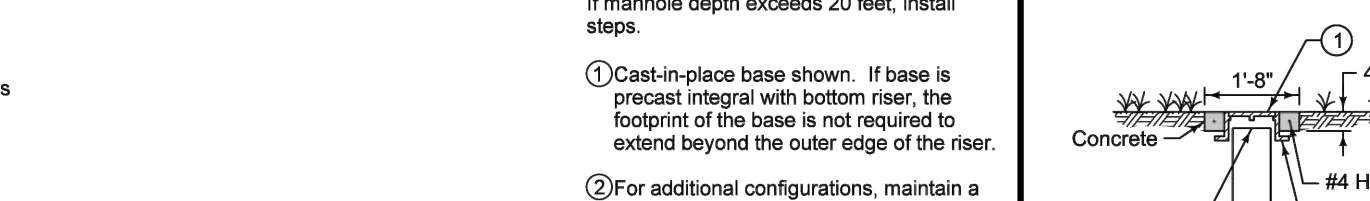
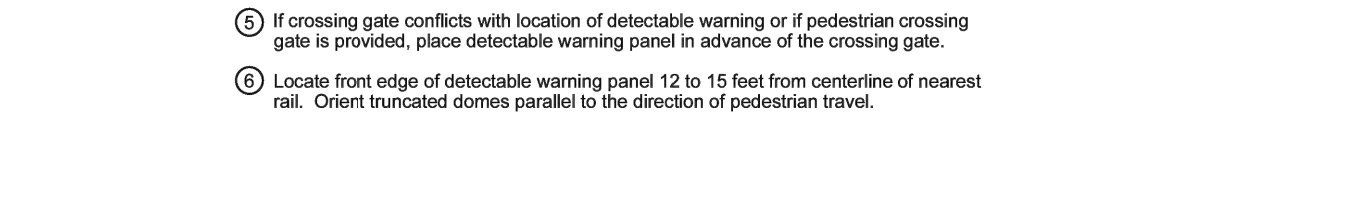
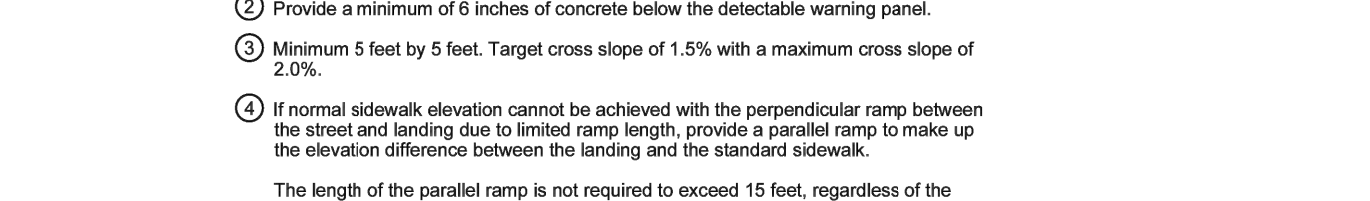
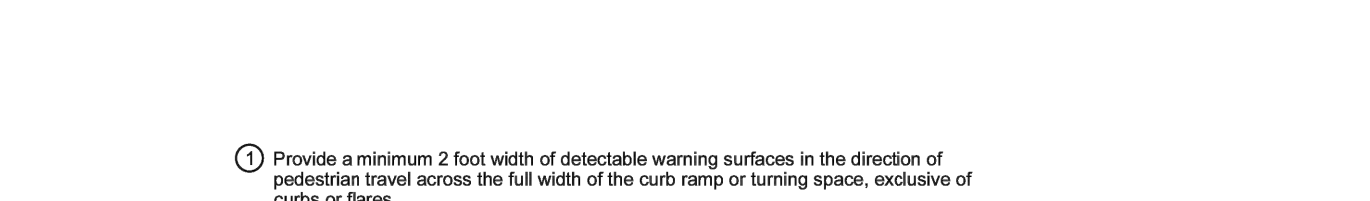
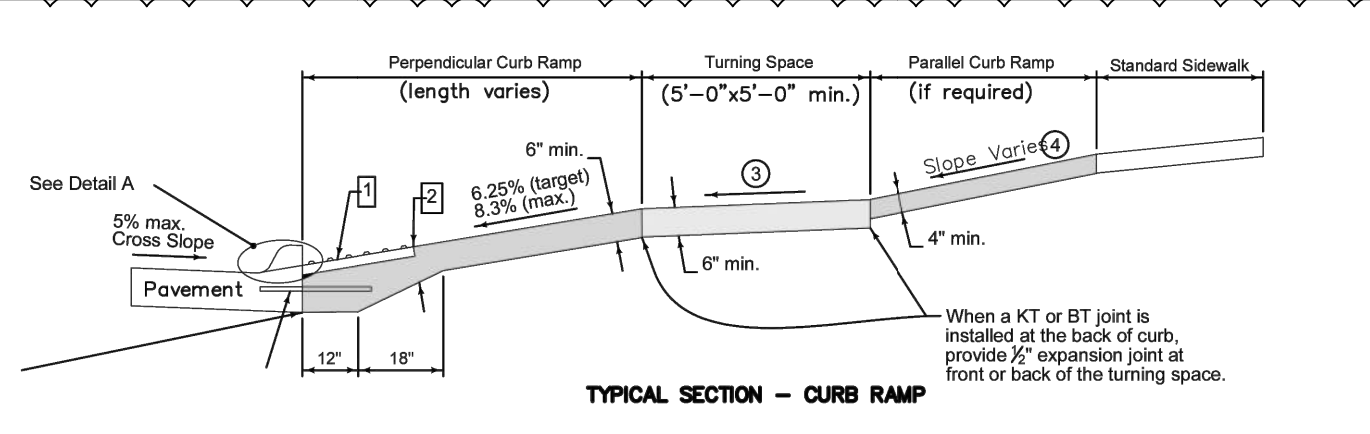


SITE PLAN 3RD REVIEW

NO.	DATE	REVISION
—	07/22/25	02 ISSUE
—	08/26/25	SITE PLAN REVIEW
—	09/12/25	75% ISSUE
—	09/23/25	SITE PLAN 2ND REVIEW
—	10/10/25	BID ISSUE
Δ	10/22/25	SITE PLAN 3RD REVIEW

PROJECT NUMBER:	RUS-25008152-A0
PROJECT DATE:	10/22/25
DRAWN BY:	MMW
CHECKED BY:	NSK
SCALE:	AS SHOWN

DRAWING TITLE	CIVIL DETAILS
DRAWING NUMBER	C-601



**NOTES**

- TO DETERMINE THRUST BLOCK SIZE SEE TABLE IN SPECIFICATIONS
- BEAR THRUST BLOCKS AGAINST UNDISTURBED EARTH.
- BRACE PLUS AGAINST UNDISTURBED EARTH.
- ARROWS INDICATE DIRECTION OF THRUST
- USE CLASS B CONCRETE
- DO NOT EXTEND CONCRETE BEYOND FITTING BELL.
- ALL FITTINGS ARE SHOWN IN PLAN VIEW
- PUSH-IN FITTINGS SHOWN ONLY FOR ILLUSTRATION - USE FITTINGS AS SPECIFIED.

**NOTE**

1. = PAVEMENT THICKNESS IN INCHES; AS SPECIFIED.

**CITY OF WAUKEE**  
**CURB DETAILS**  
**STD. DWG. NO. 23**

**CITY OF WAUKEE**  
**THRUST BLOCK DETAILS**  
**STD. DWG. NO. 35**

**CITY OF WAUKEE**  
**GENERAL SIDEWALK AND CURB RAMP DETAILS**  
**STD. DWG. NO. 47**

**CITY OF WAUKEE**  
**THRUST BLOCK DETAILS**  
**STD. DWG. NO. 35**

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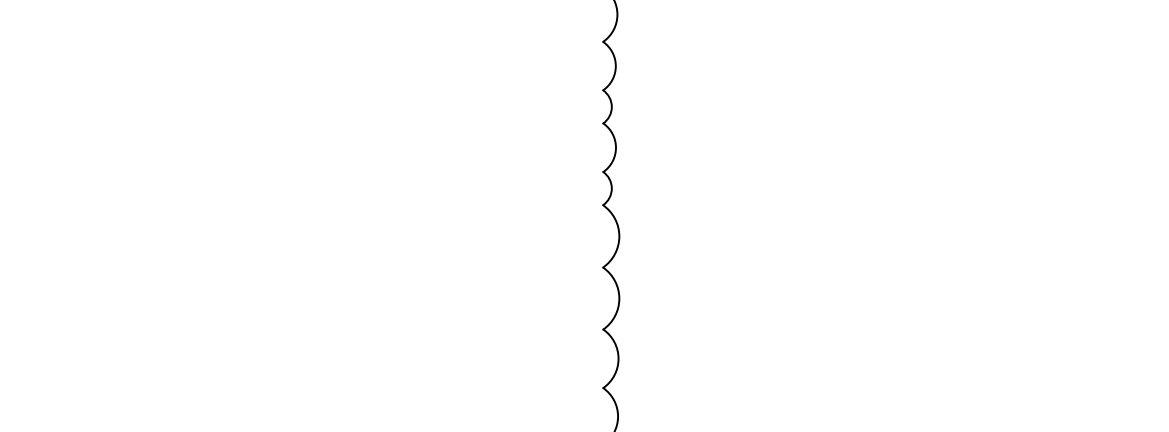
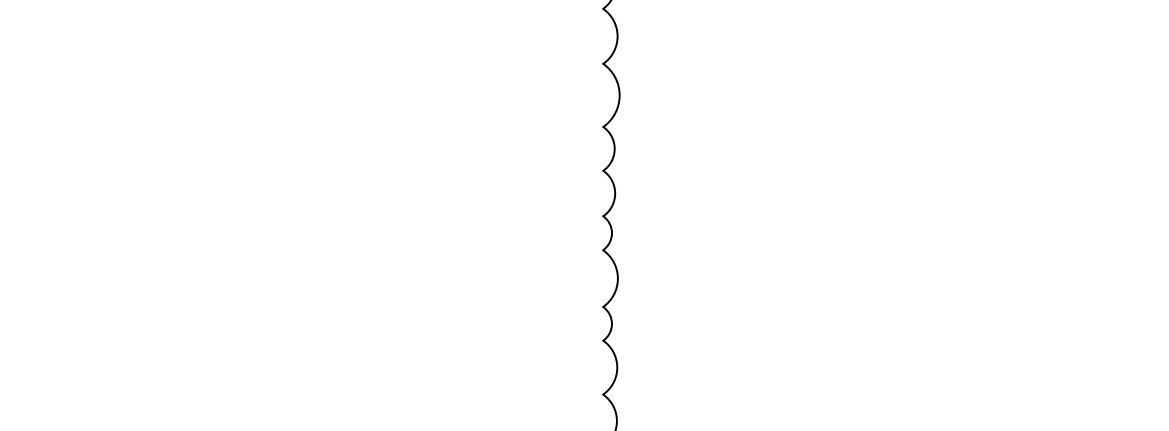
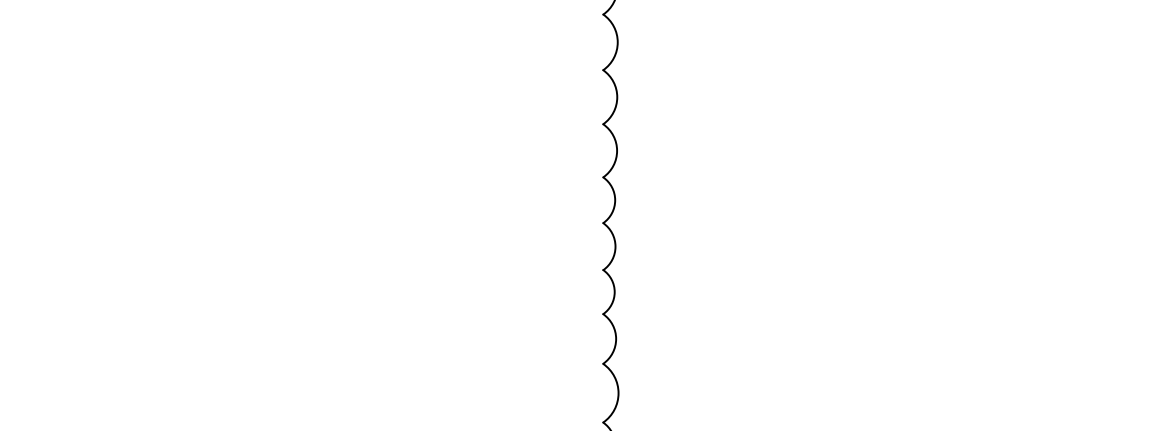
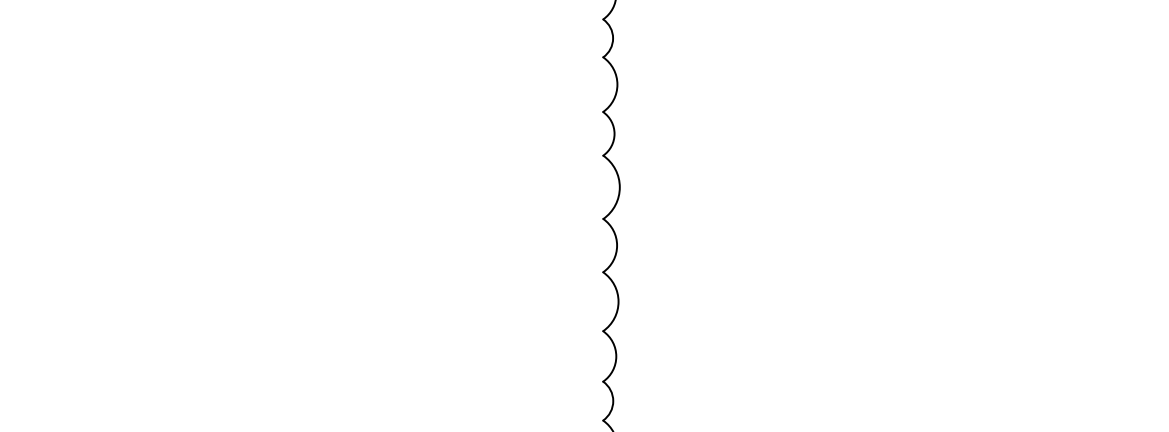
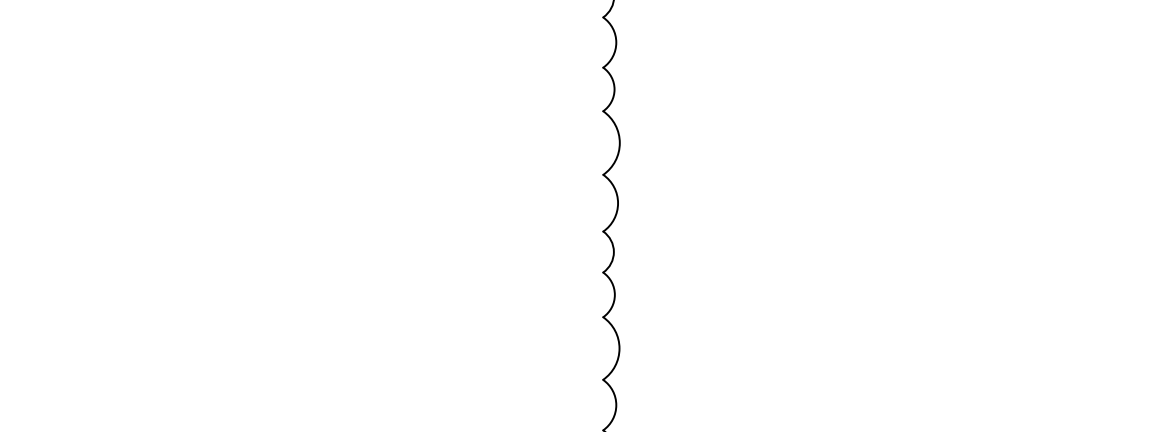
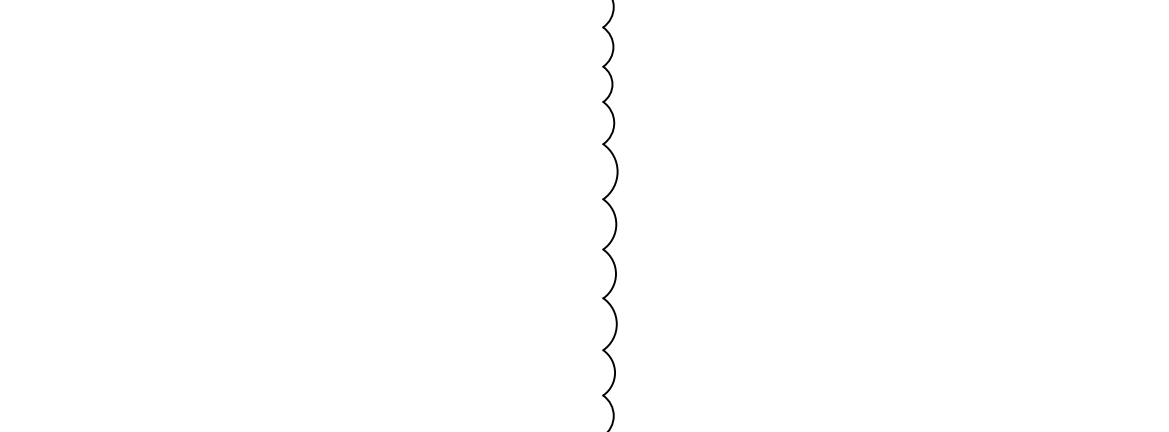
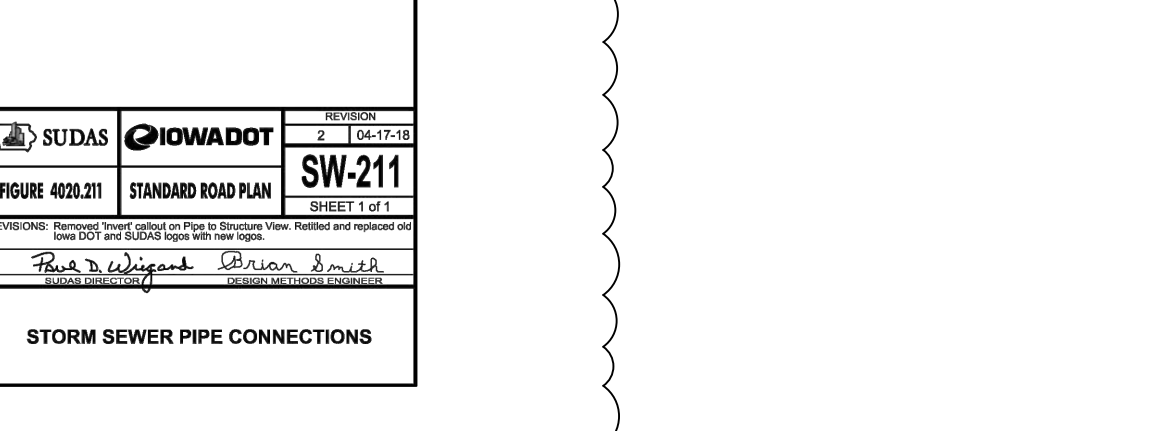
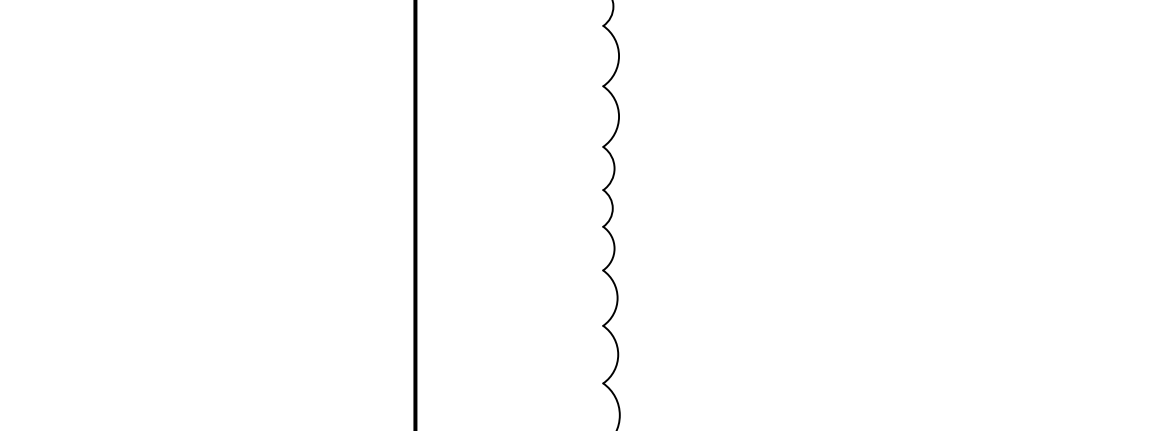
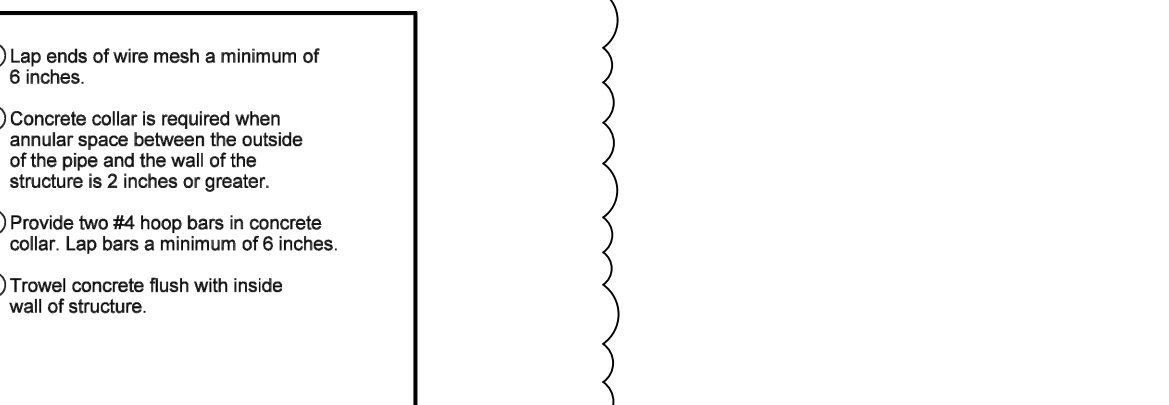
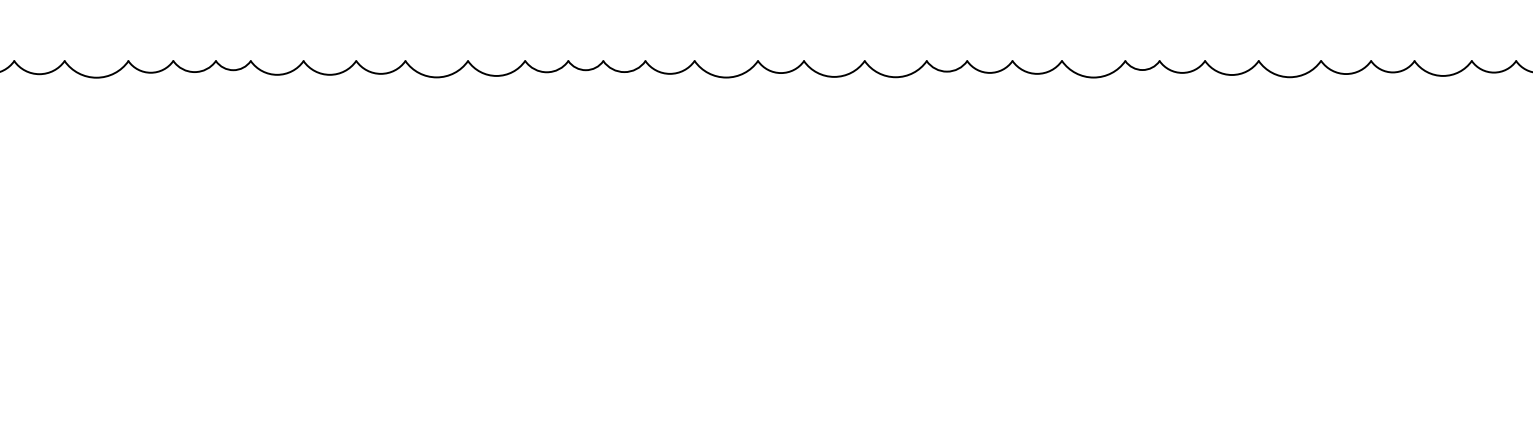
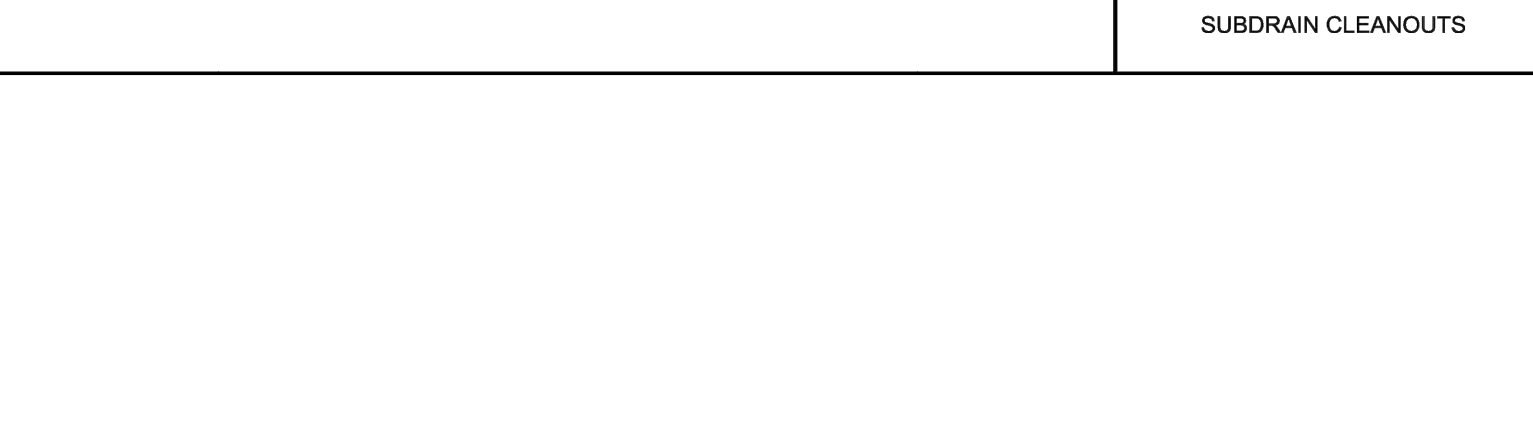
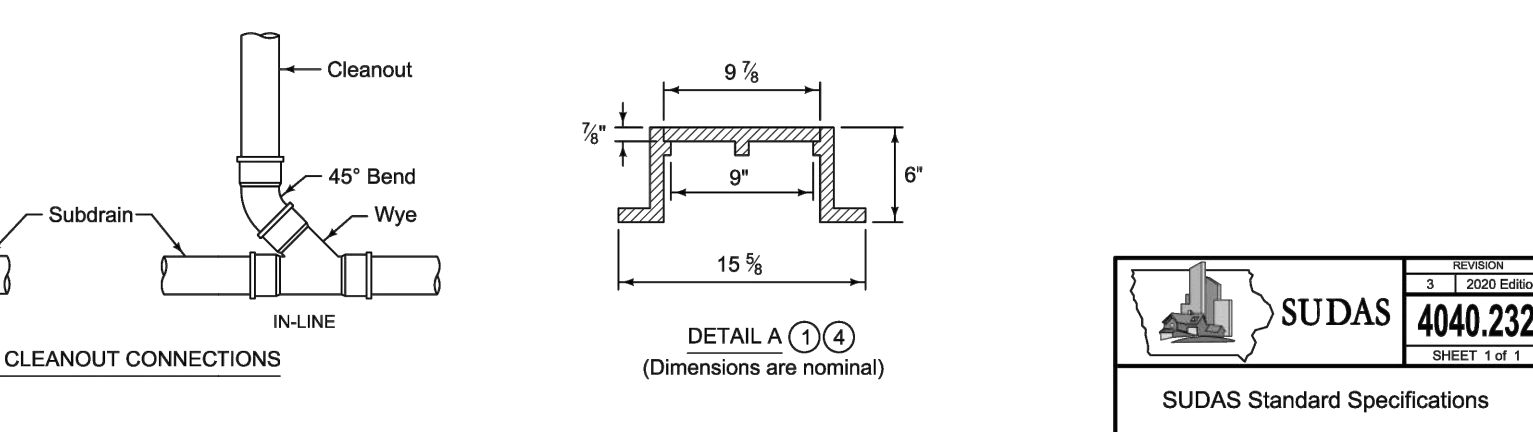
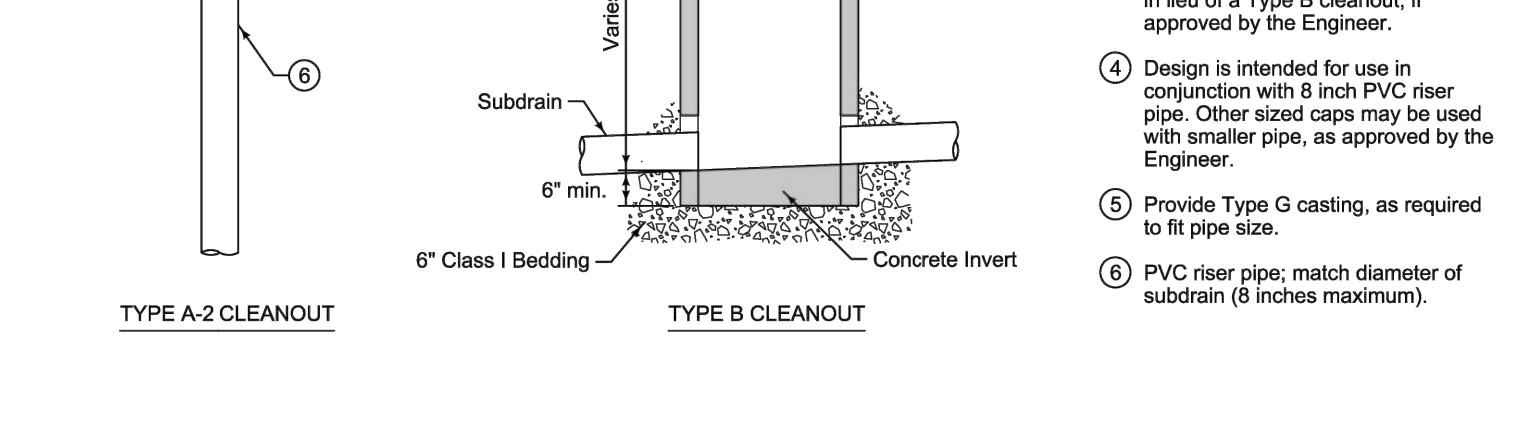
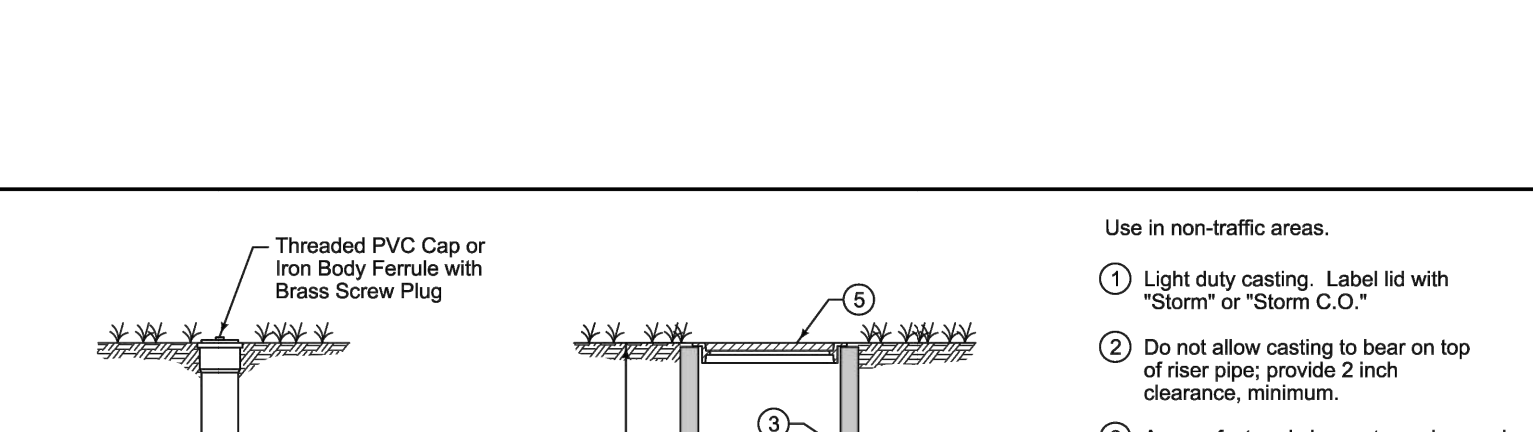
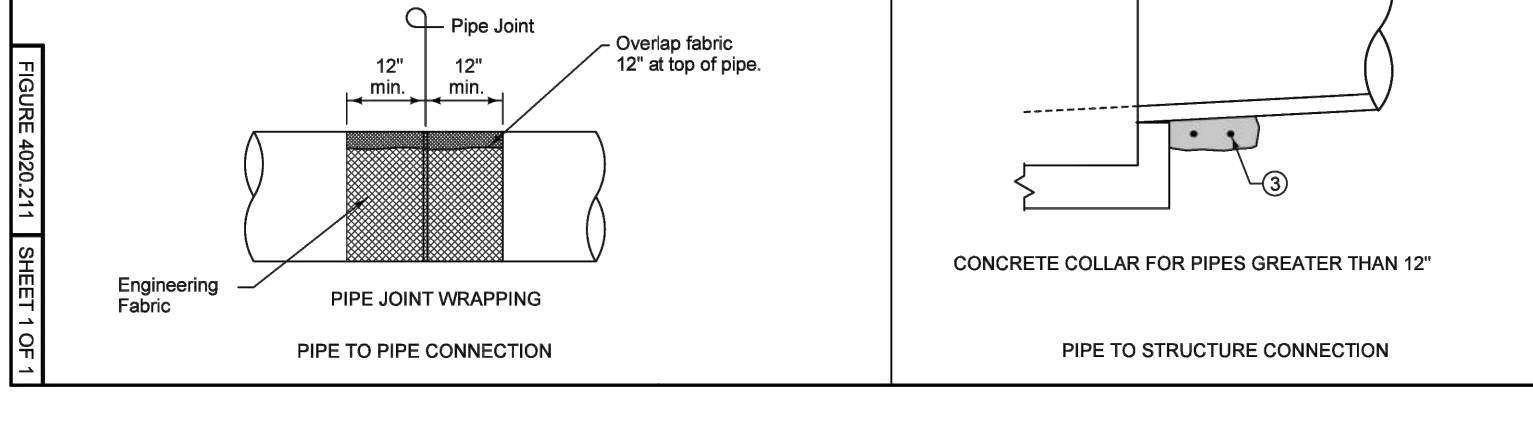
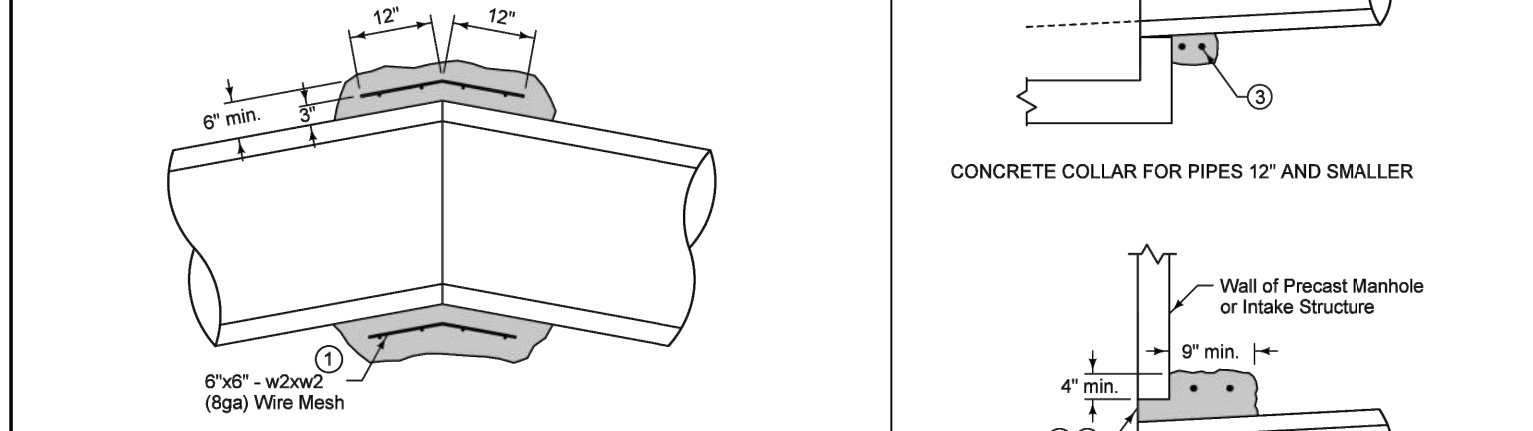
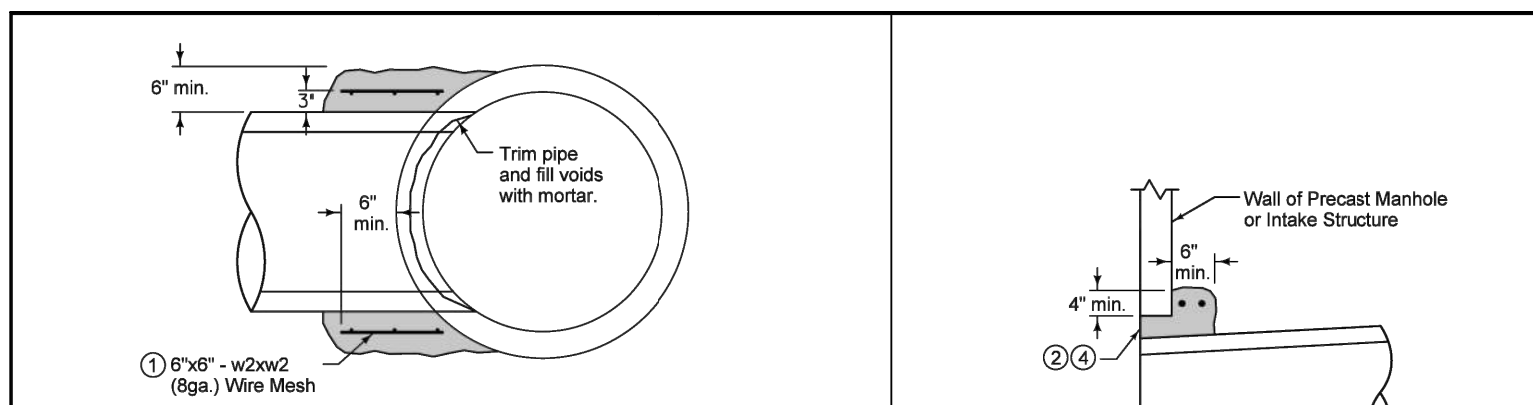
**CITY OF WAUKEE**  
**THRUST BLOCK DETAILS**  
**STD. DWG. NO. 35**

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**INTAKE SIZE - CASE 1**

Outlet Pipe Diameter (D1)	Minimum Riser Diameter (D2)
12"	18"
15"	24"
18"	24"
21"	30"
24"	30"
27"	30"

**MANHOLE DEPTH EXCEEDS 20 FEET, INSTALL SLOPE**

- Cast-in-place base shown. If base is precast integral with bottom riser, the footprint of the base is not required to extend beyond the outer edge of the riser.
- For additional configurations, maintain a minimum of 12 inches of concrete between vertical edges of pipe openings.
- 12 inch minimum riser height above all pipe openings.

**MANHOLE DEPTH EXCEEDS 20 FEET, INSTALL SLOPE**

Manhole Diameter (Inches)	Maximum Pipe Diameter (Inches) for 2 Pipes at 180° Separation	Maximum Pipe Diameter (Inches) for 2 Pipes at 90° Separation
48	24	18
60	36	24
72	42	30
84	48	36
96	60	42

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**MAXIMUM PIPE DIAMETERS**

Pipe Location	Precast Structure	Cast-in-place Structure
Short Wall	15"	18"
Long Wall	24"	30"

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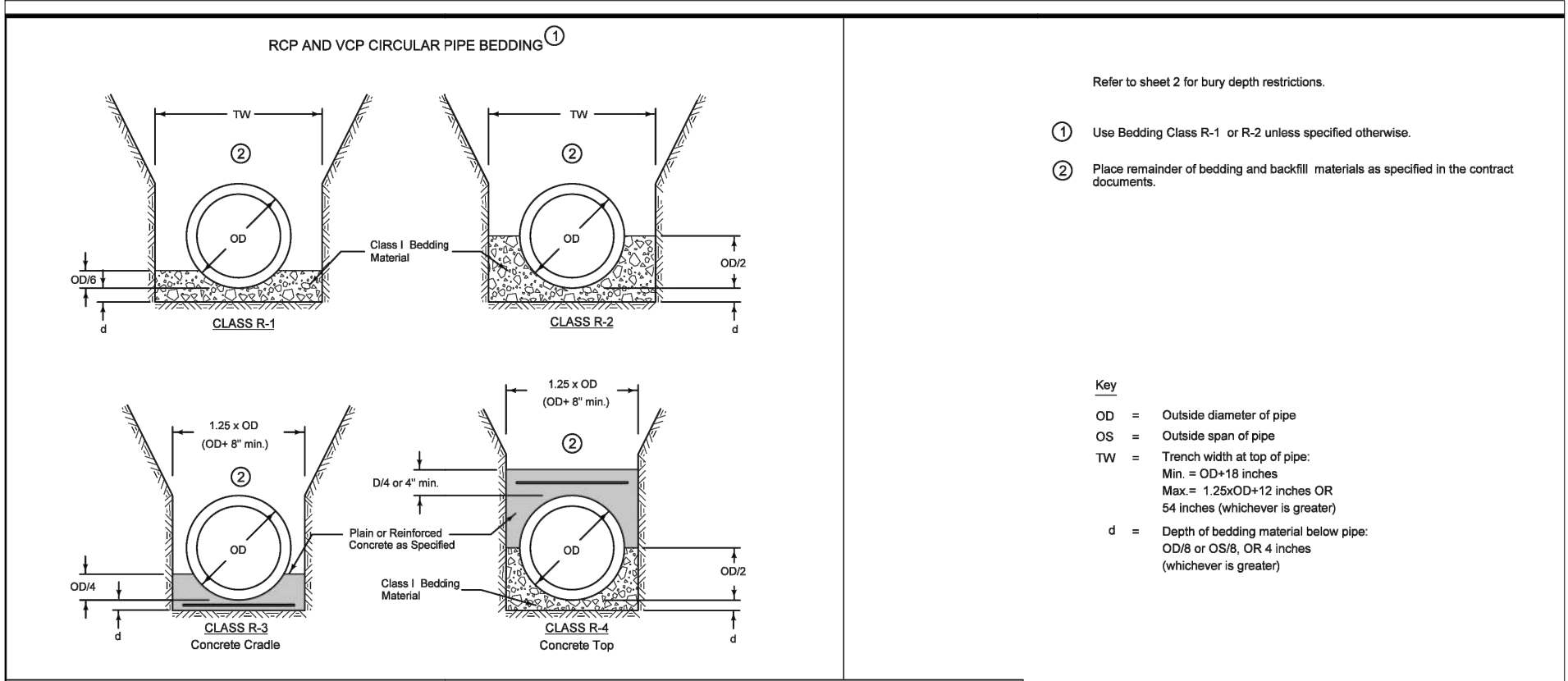
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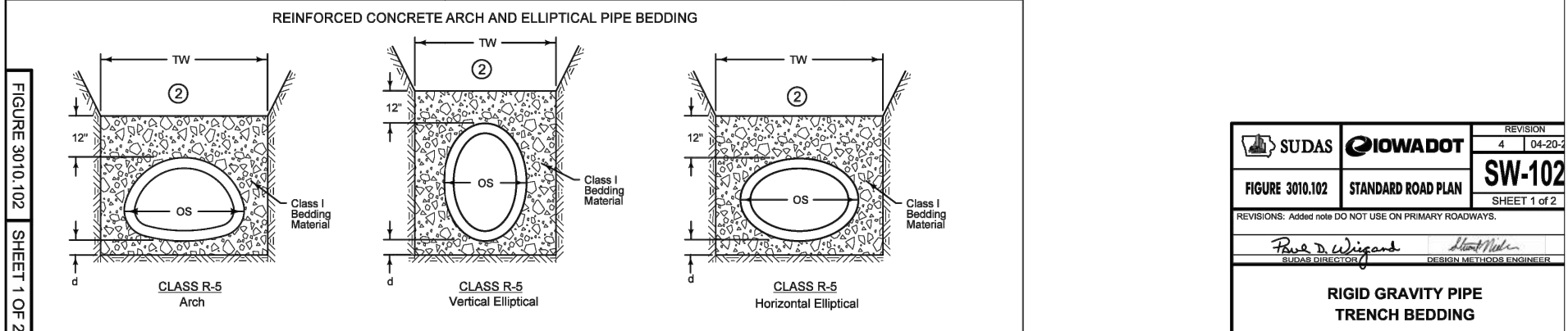
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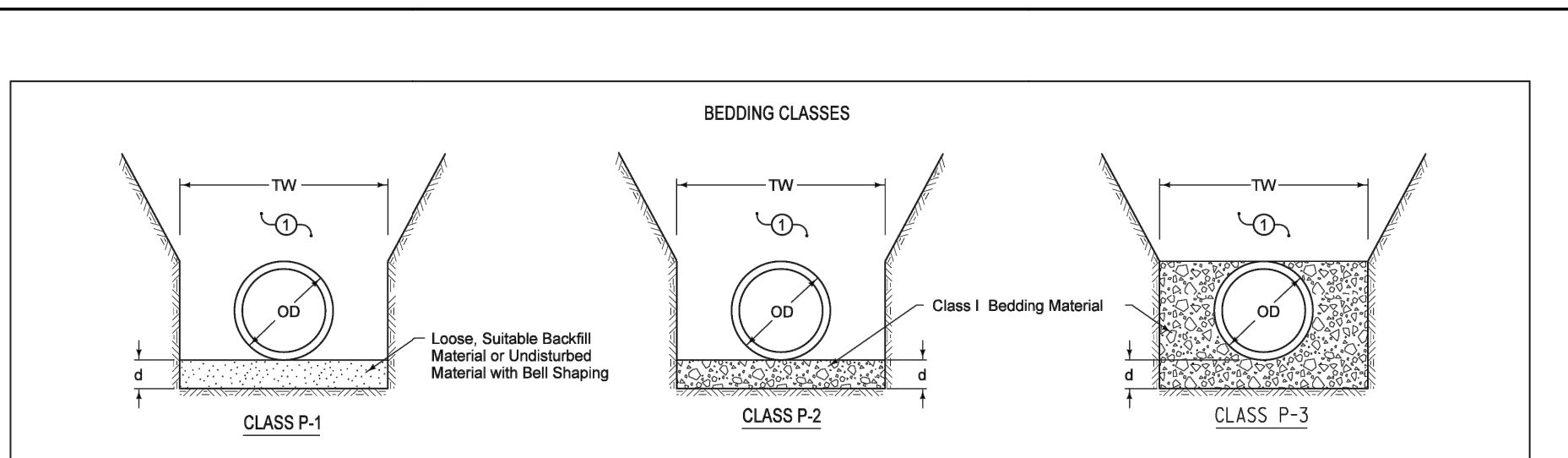


- Refer to sheet 2 for bury depth restrictions.
- Use Bedding Class R-1 or R-2 unless specified otherwise.
  - Place remainder of bedding and backfill materials as specified in the contract documents.

Key:  
 OD = Outside diameter of pipe  
 OD<sub>1</sub> = Outside diam of pipe  
 OD<sub>2</sub> = Outside diam of pipe  
 TW = Trench width at top of pipe  
 Min. = OD+18 inches  
 Max. = 125(OD)-10 inches OR 54 inches (whichever is greater)  
 d = Depth of bedding material below pipe  
 OD<sub>1</sub> or OD<sub>2</sub>, whichever is greater (whichever is greater)



**SUDAS** **CHOWADOT**  
**7030.206**  
**SW-102**  
 RIGID GRAVITY PIPE TRENCH BEDDING



**ALLOWABLE BURY DEPTH**

Pipe Diameter (inches)	DUCTILE IRON, AWWA C151, CLASS S2			PVC, AWWA C900, DR18			
	Class P-1 Bedding	Class P-2 Bedding	Class P-3 Bedding	Class P-1 Bedding	Class P-2 Bedding	Class P-3 Bedding	
4	40	40	40	4	19	23	40
6	40	40	40	6	19	23	40
8	40	40	40	8	19	23	40
10	30	40	40	10	19	23	40
12	31	40	40	12	19	23	40
14	28	40	40	14	19	23	40
16	23	37	40	16	19	23	40
18	20	34	40	18	19	23	40
20	18	32	40	20	19	23	40
24	16	29	38	24	19	23	40
30	13	22	31	30	13	22	30
36	13	21	29	36	13	21	29
42	13	21	29	42	13	21	29
48	13	19	27	48	13	19	27
54	13	19	27	54	13	19	27

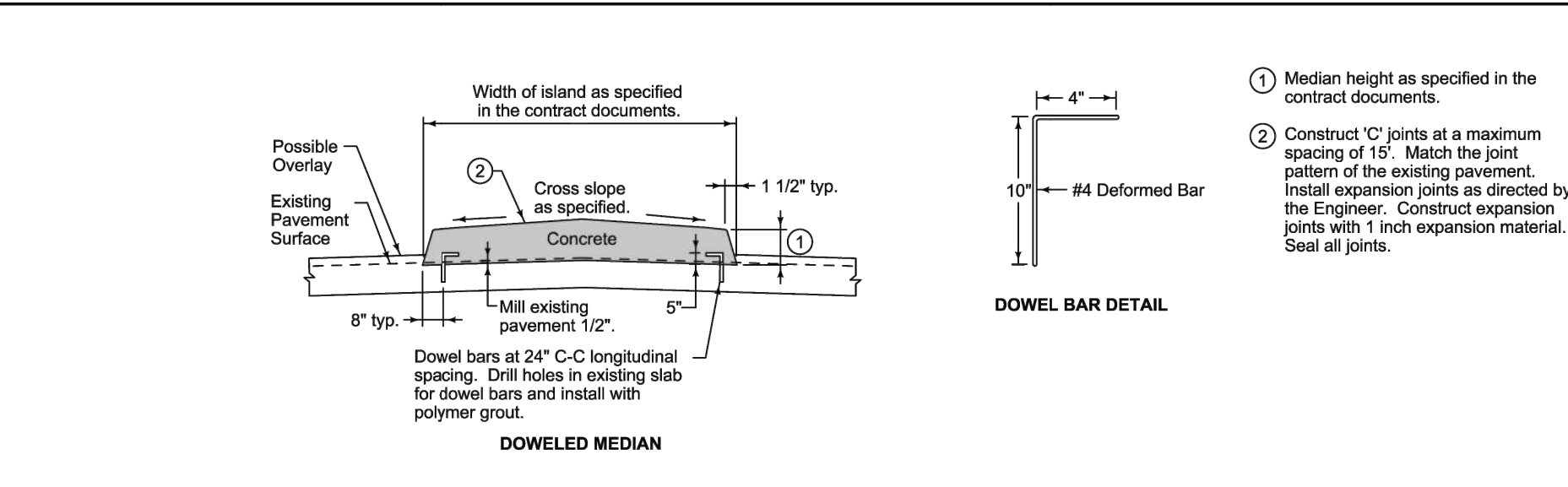
Key:  
 OD = Outside diameter of pipe  
 TW = Trench width at top of pipe  
 Min. = OD+18 inches OR 125(OD)+12 inches (whichever is greater)  
 d = Depth of bedding material below pipe  
 Min. = OD<sub>1</sub> OR 4 inches (whichever is greater)

**SUDAS** **CHOWADOT**  
**7030.206**  
**SW-104**  
 PRESSURE PIPE TRENCH BEDDING

**ALLOWABLE BURY DEPTH**

Pipe Diameter (inches)	CLASS B RCP		CLASS V RCP		CLASS R 3 & 4 Bedding	
	No. Steel	Asst. Ck.	No. Steel	Asst. Ck.	No. Steel	Asst. Ck.
12	7	12	7	12	13	12
18	8	17	8	17	18	12
24	8	17	8	17	21	12
30	8	17	8	17	24	12
36	8	17	8	17	27	12
42	8	17	8	17	30	12
48	8	17	8	17	33	12
54	8	17	8	17	36	12
60	8	17	8	17	39	12
66	8	17	8	17	42	12
72	8	17	8	17	45	12
78	8	17	8	17	48	12
84	8	17	8	17	51	12
90	8	17	8	17	54	12
96	8	17	8	17	57	12
102	8	17	8	17	60	12
108	8	17	8	17	63	12
114	8	17	8	17	66	12
120	8	17	8	17	69	12
126	8	17	8	17	72	12
132	8	17	8	17	75	12
138	8	17	8	17	78	12
144	8	17	8	17	81	12
150	8	17	8	17	84	12
156	8	17	8	17	87	12
162	8	17	8	17	90	12
168	8	17	8	17	93	12
174	8	17	8	17	96	12
180	8	17	8	17	99	12
186	8	17	8	17	102	12
192	8	17	8	17	105	12
198	8	17	8	17	108	12
204	8	17	8	17	111	12
210	8	17	8	17	114	12
216	8	17	8	17	117	12
222	8	17	8	17	120	12
228	8	17	8	17	123	12
234	8	17	8	17	126	12
240	8	17	8	17	129	12
246	8	17	8	17	132	12
252	8	17	8	17	135	12
258	8	17	8	17	138	12
264	8	17	8	17	141	12
270	8	17	8	17	144	12
276	8	17	8	17	147	12
282	8	17	8	17	150	12
288	8	17	8	17	153	12
294	8	17	8	17	156	12
300	8	17	8	17	159	12
306	8	17	8	17	162	12
312	8	17	8	17	165	12
318	8	17	8	17	168	12
324	8	17	8	17	171	12
330	8	17	8	17	174	12
336	8	17	8	17	177	12
342	8	17	8	17	180	12
348	8	17	8	17	183	12
354	8	17	8	17	186	12
360	8	17	8	17	189	12
366	8	17	8	17	192	12
372	8	17	8	17	195	12
378	8	17	8	17	198	12
384	8	17	8	17	201	12
390	8	17	8	17	204	12
396	8	17	8	17	207	12
402	8	17	8	17	210	12
408	8	17	8	17	213	12
414	8	17	8	17	216	12
420	8	17	8	17	219	12
426	8	17	8	17	222	12
432	8	17	8	17	225	12
438	8	17	8	17	228	12
444	8	17	8	17	231	12
450	8	17	8	17	234	12
456	8	17	8	17	237	12
462	8	17	8	17	240	12
468	8	17	8	17	243	12
474	8	17	8	17	246	12
480	8	17	8	17	249	12
486	8	17	8	17	252	12
492	8	17	8	17	255	12
498	8	17	8	17	258	12
504	8	17	8	17	261	12
510	8	17	8	17	264	12
516	8	17	8	17	267	12
522	8	17	8	17	270	12
528	8	17	8	17	273	12
534	8	17	8	17	276	12
540	8	17	8	17	279	12
546	8	17	8	17	282	12
552	8	17	8	17	285	12
558	8	17	8	17	288	12
564	8	17	8	17	291	12
570	8	17	8	17	294	12
576	8	17	8	17	297	12
582	8	17	8	17	300	12
588	8	17	8	17	303	12
594	8	17	8	17	306	12
600	8	17	8	17	309	12
606	8	17	8	17	312	12
612	8	17	8	17	315	12
618	8	17	8	17	318	12
624	8	17	8	17	321	12
630	8	17	8	17	324	12
636	8	17	8	17	327	12
642	8	17	8	17	330	12
648	8	17	8	17	333	12
654	8	17	8	17	336	12
660	8	17	8	17	339	12
666	8	17	8	17	342	12
672	8	17	8	17	345	12
678	8	17	8	17	348	12
684	8	17	8	17	351	12
690	8	17	8	17	354	12
696	8	17	8	17	357	12
702	8	17	8	17	360	12
708	8	17	8	17	363	12
714	8	17	8	17	366	12
720	8	17	8	17	369	12
726	8	17	8	17	372	12
732	8	17	8	17	375	12
738	8	17	8	17	378	12
744	8	17	8	17	381	12
750	8	17	8	17	384	12
756	8	17	8	17	387	12
762	8	17	8	17	390	12
768	8	17	8	17	393	12
774	8	17	8	17	396	12
780	8	17	8	17	399	12
786	8	17	8	17	402	12
792	8	17	8	17	405	12
798	8	17	8	17	408	12
804	8	17	8	17	411	12
810	8	17	8	17	414	12
816	8	17	8	17	417	12
822	8	17	8	17	420	12
828	8	17	8	17	423	12
834	8	17	8	17	426	12
840	8	17	8	17	429	12
846	8	17	8	17	432	12
852	8	17	8	17	435	12
858	8	17	8	17	438	12
864	8	17	8	17	441	12
870	8	17	8	17	444	12
876	8	17	8	17	447	12
882	8	17	8	17	450	12
888	8	17	8	17	453	12
894	8	17	8	17	456	12
900	8	17	8	17	459	12
906	8	17	8	17	462	12
912	8	17	8	17	465	12
918	8	17	8	17	468	12
924	8	17	8	17	471	12
930	8	17	8	17	474	12
936	8	17	8	17	477	12
942	8	17	8	17	480	12
948	8	17	8	17	483	12
954	8	17	8	17	486	12
960	8	17	8	17	489	12
966	8	17	8	17	492	12
972	8	17	8	17	495	12
978	8	17	8	17	498	12
984	8	17	8	17	501	12
990	8	17	8	17	504	12
996	8	17	8	17	507	12
1002	8	17	8	17	510	12

**SUDAS** **CHOWADOT**  
**7030.206**  
**SW-102**  
 RIGID GRAVITY PIPE TRENCH BEDDING



**SUDAS** **7010.906**  
 SUDAS Standard Specifications  
 MEDIANS

**ALLOWABLE BURY DEPTH**

Pipe Diameter (inches)	EXTRA STRENGTH VCP		CONCRETE ARCH PIPE		HORIZONTAL ELLIPTICAL RCP		VERTICAL ELLIPTICAL RCP	
	No. Steel	Asst. Ck.	No. Steel	Asst. Ck.	No. Steel	Asst. Ck.	No. Steel	Asst. Ck.
12	7	12	7	12	13	12	13	12
18	8	17	8	17	18	12	18	12
24	8	17	8	17	21	12	21	12
30	8	17	8	17	24	12	24	12
36	8	17	8	17	27	12	27	12
42	8	17	8	17	30	12	30	12
48	8	17	8	17	33	12	33	12
54	8	17	8	17	36	12	36	12
60	8	17	8	17	39	12	39	12
66	8	17	8	17	42	12	42	12
72	8	17	8	17	45	12	45	12
78	8	17	8	17	48	12	48	12
84	8	17	8	17	51	12	51	12
90	8	17						

**Design Criteria**  
 Authority Having Jurisdiction: City of Waukee  
 Removal Requirement: NJDEP (50% TSS)

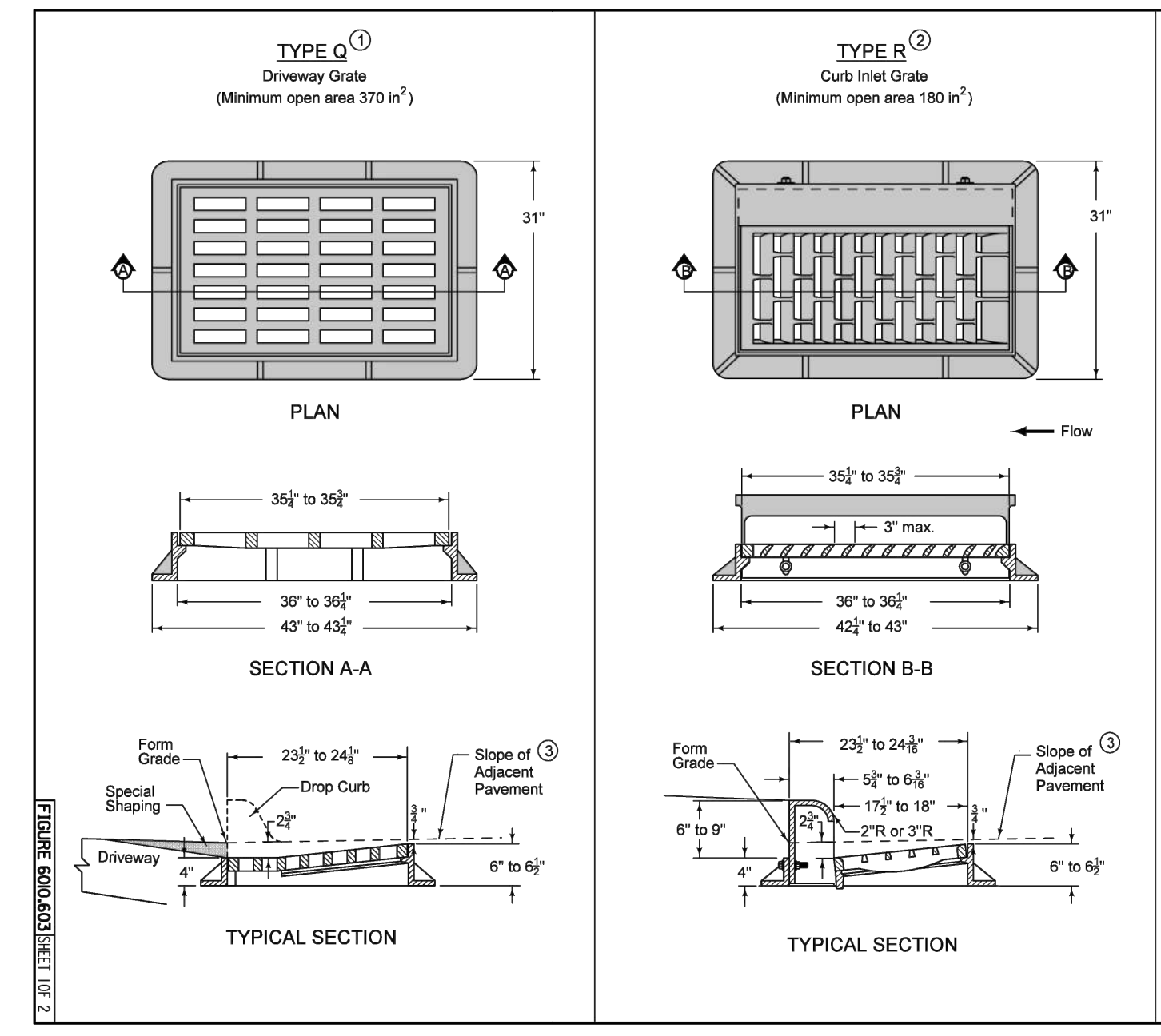
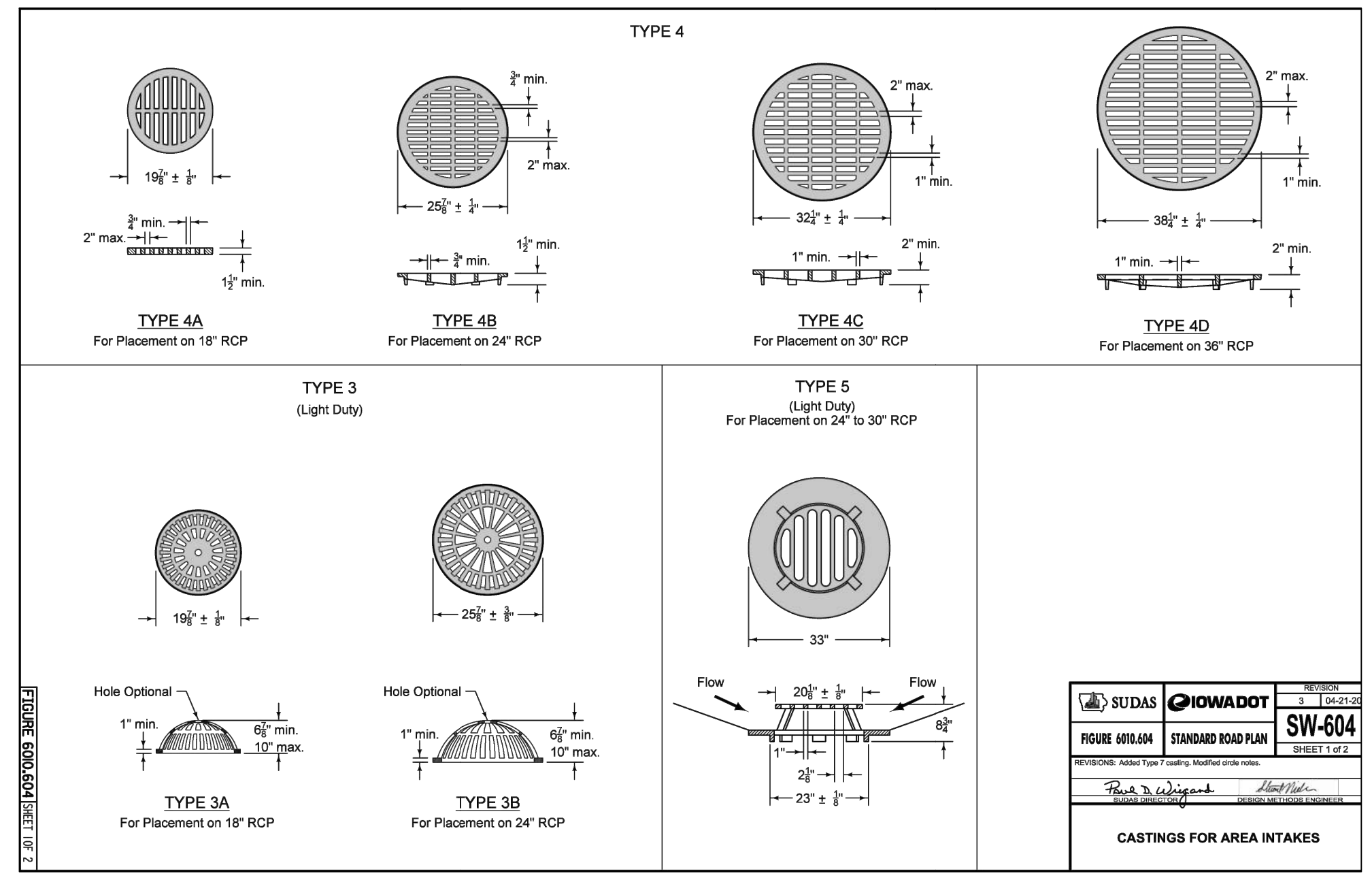
**Sizing Overview**  
 The StormSettler treatment device, manufactured by StormTrap, is a highly efficient stormwater treatment settling device that improves the quality of stormwater runoff. StormSettler is the first hydrodynamic separator in the stormwater industry to utilize tube settling packs and upflow patterns to promote settlement and capture of sediments. Designed using computational fluid dynamics and extensive laboratory testing, StormSettler utilizes flow modifiers and tube settlers for effective treatment. The StormSettler is NJCAT verified for 80% TSS removal of OK-110 and is certified by NJDEP for 50% TSS removal following the 2021 protocol.

The StormSettler(s) below were designed based on the water quality flow rate provided by the engineer of record.

Structure ID	Water Quality Flow Rate (CFS)	StormSettler Model	MTRR for 50% NJDEP (CFS)
ST-4	3.61	SSet-7	4.3

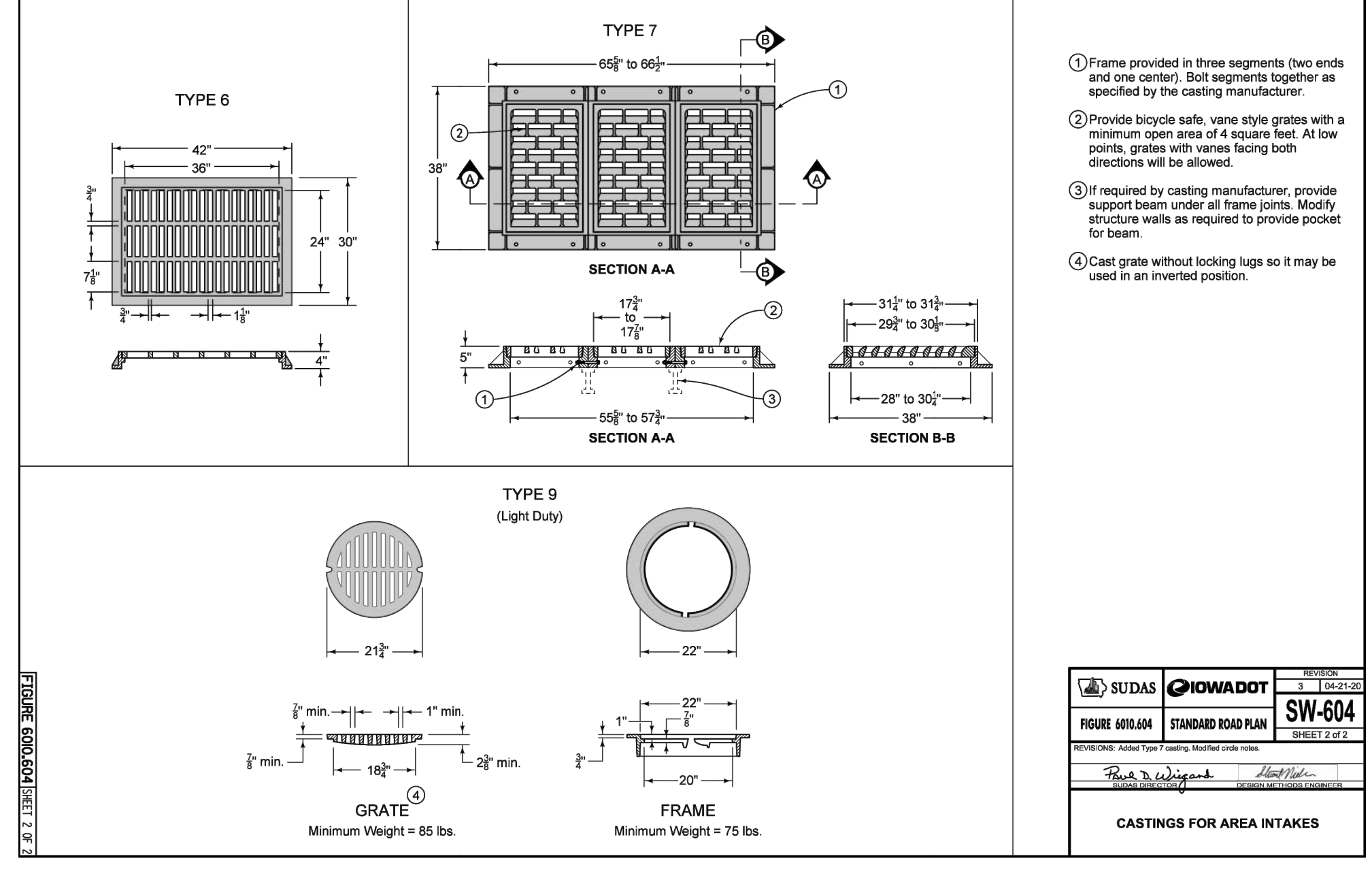
**Maintenance**  
 StormSettler requires regular inspection and maintenance to ensure optimal performance, similar to other stormwater treatment best management practices. StormSettler's maintenance frequency is site dependent and routine inspections are recommended to ensure that the system is functioning as designed. Inspection and maintenance without the need to enter the unit ensures efficient, worry-free functionality of StormTrap water quality solutions. Please contact your authorized StormTrap representative if you have questions regarding the inspection and maintenance of the StormSettler system.

Sincerely,  
 Quinten Miller  
 Territory Manager - IL  
 qmiller@stormtrap.com  
 (614) 965-0878

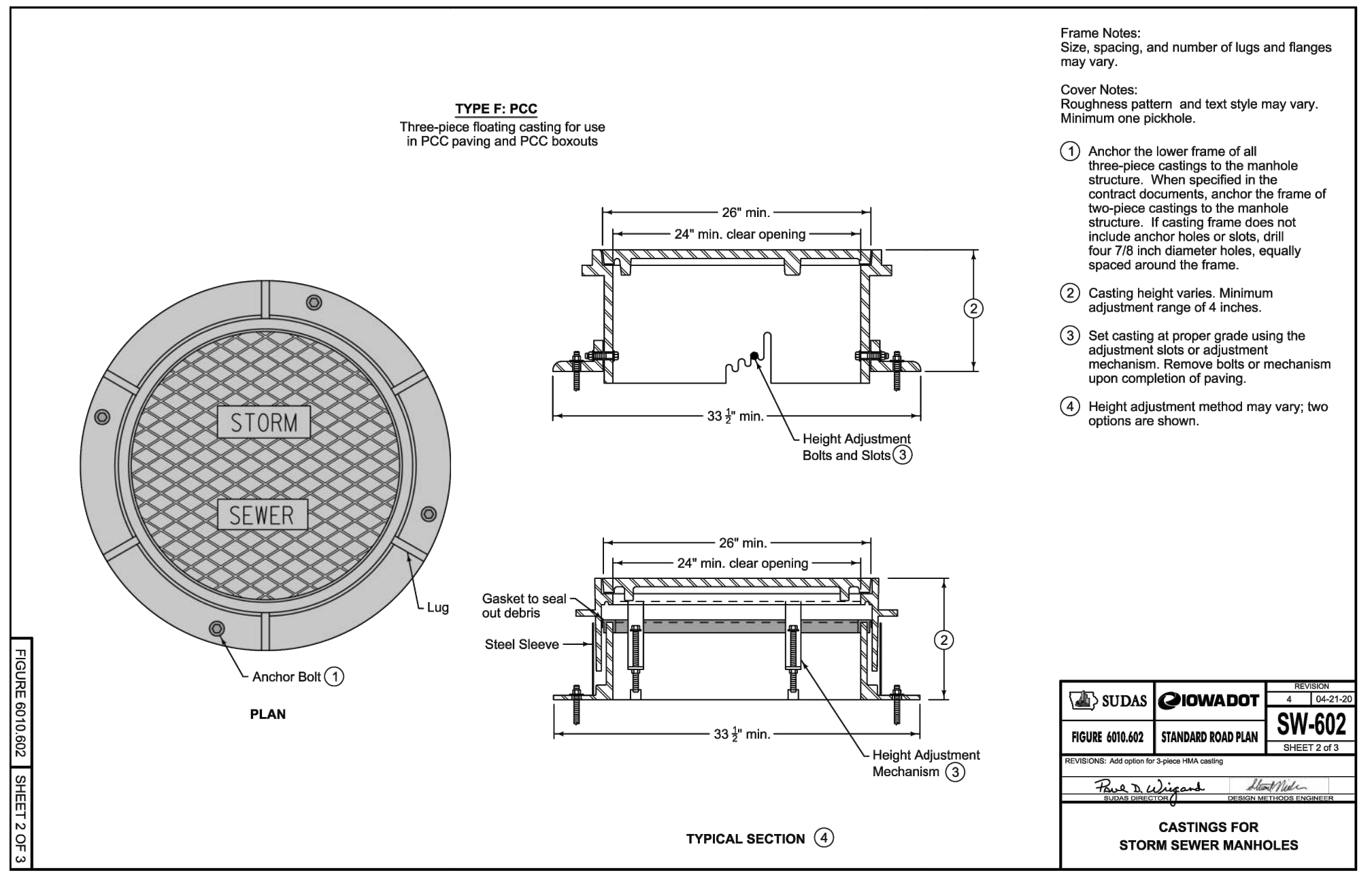


① For use at curb drops for driveways. Use only when specified in the contract documents.  
 ② Provide bicycle-safe, vane-style grate. At low points, grates with vane facing both directions of flow are allowed.  
 ③ For details of boxout pavement, refer to SW-614.

**CASTINGS FOR GRATE INTAKES**



① Frame provided in three segments (two ends and one center). Bolt segments together as specified by the casting manufacturer.  
 ② Provide bicycle-safe, vane-style grates with a minimum open area of 4 square feet. At low points, grates with vane facing both directions will be allowed.  
 ③ If required by casting manufacturer, provide support beam under all frame joints. Modify structure walls as required to provide pocket for beam.  
 ④ Cast grate without locking lips so it may be used in an inverted position.



**Frame Notes:**  
 Size, spacing, and number of lugs and flanges may vary.

**Cover Notes:**  
 Roughness pattern and text style may vary. Minimum one inch.

① Anchor the lower frame of all three-piece castings to the manhole structure. When specified in the contract documents, anchor the frame of two-piece castings to the manhole structure. If casting frame does not include anchor holes on side, drill four 7/8 inch diameter holes, equally spaced around the frame.  
 ② Casting height varies. Minimum adjustment range of 4 inches.  
 ③ Set casting at proper grade using the adjustment slots or adjustment mechanism. Narrow bolts or mechanism upon completion of paving.  
 ④ Height adjustment method may vary; two options are shown.

SEAL

**DES MOINES DATA CENTER**

**Us Signal**  
 390 NE Alice's Road  
 Waukee, IA 50263

NO.	DATE	REVISION
—	07/22/25	02 ISSUE
—	08/26/25	SITE PLAN REVIEW
—	09/12/25	75% ISSUE
—	09/23/25	SITE PLAN 2ND REVIEW
—	10/10/25	BID ISSUE
Δ	10/22/25	SITE PLAN 3RD REVIEW

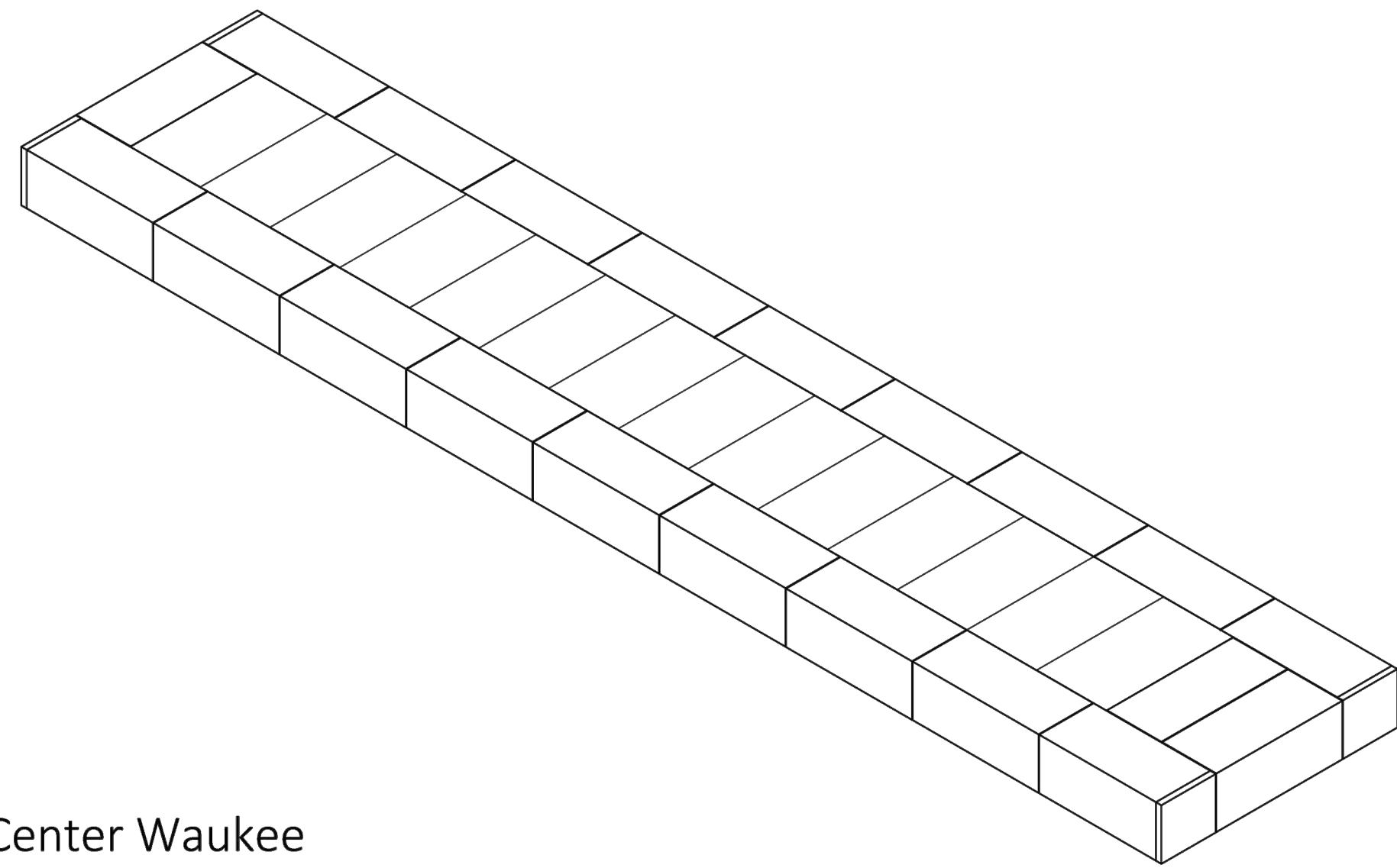
PROJECT NUMBER: RUS-25008152-A0  
 PROJECT DATE: 10/22/25  
 DRAWN BY: MMW  
 CHECKED BY: NSK  
 SCALE: AS SHOWN

DRAWING TITLE  
**CIVIL**  
 DETAILS

DRAWING NUMBER  
**C-603**



THE STORMTRAP DRAWINGS SHALL NOT BE ALTERED OR MANIPULATED IN WHOLE OR IN PART WITHOUT WRITTEN CONSENT OF STORMTRAP. USE OF THESE DRAWINGS IS STRICTLY GRANTED TO YOU, OUR CLIENT, FOR THE SPECIFIED AND NAMED PROJECT ONLY. THESE DRAWINGS ARE FOR YOUR REFERENCE ONLY AND SHALL NOT BE USED FOR MANUFACTURING PURPOSES.



Data Center Waukee  
- Detention 5'-8" ST Option  
Waukee IA

SHEET INDEX	
PAGE	DESCRIPTION
0.0	COVER SHEET
1.0	GENERAL NOTES
1.1	SINGLETRAP DESIGN CRITERIA
2.0	SINGLETRAP SYSTEM LAYOUT
2.1	SINGLETRAP FOUNDATION LAYOUT
3.0	SINGLETRAP INSTALLATION SPECIFICATION
3.1	SINGLETRAP INSTALLATION SPECIFICATION
4.0	SINGLETRAP BACKFILL SPECIFICATION
5.0	PIPE/ACCESS OPENING SPECIFICATION
6.0	SINGLETRAP MODULE TYPES

STORMTRAP CONTACT INFORMATION  
STORMTRAP SUPPLIER: STORMTRAP  
CONTACT NAME: Quinten Miller  
CELL PHONE: (614) 965-0978  
SALES EMAIL: qmiller@stormtrap.com

**StormTrap**  
1287 MIDCUM PARKWAY  
ROCKFORD, IL 60446  
P815-941-4549 / F331-318-5347

ENGINEER INFORMATION:  
EXP Services -  
Chicago, IL

PROJECT INFORMATION:  
Data Center  
Waukee -  
Detention 5'-8"  
ST Option  
Waukee, IA

CURRENT ISSUE DATE:  
9/23/2025

ISSUED FOR:  
PRELIMINARY

REV.	DATE	ISSUED FOR:	DWN BY:
1	9/23/2025	PRELIMINARY	JPH
2	8/19/2025	PRELIMINARY	JPH
1	08/15/2025	PRELIMINARY	EB

SCALE:  
NTS

SHEET TITLE:  
COVER SHEET

SHEET NUMBER:  
0.0

GENERAL NOTES:

- STRUCTURE PROXIMITY LOADING DISCLAIMER:  
STORMTRAP MODULES AND FOUNDATION ARE NOT DESIGNED TO ACCEPT ANY ADDITIONAL LOADING FROM ANY NEARBY STRUCTURES NEXT TO OR OVER THE TOP OF STORMTRAP. EXAMPLES OF NEARBY STRUCTURES MAY INCLUDE, BUT ARE NOT LIMITED TO BUILDINGS, FOUNDATION ELEMENTS, RETAINING WALLS, LIGHT POLES, BOLLARDS, SIGNPOSTS, FENCES. ADDITIONALLY, STORMTRAP IS NOT RESPONSIBLE FOR INSTALLATION CONFLICTS ARISING FROM ANY OF THESE NEARBY STRUCTURES. IF ADDITIONAL LOADING CONSIDERATIONS ARE REQUIRED FOR STRUCTURAL DESIGN OF STORMTRAP, PLEASE CONTACT STORMTRAP IMMEDIATELY. FOR LIGHT POLES SHOWN OVER THE TOP OF THE SYSTEM, STORMTRAP WILL PROVIDE A 5'-0" LATERAL DISTANCE CAVITY AROUND THE LIGHT POLE TO ACCOMMODATE IT. THE EOR TO TAKE RESPONSIBILITY FOR ENSURING THE LIGHT POLE IS NOT IMPLICATING ANY LOADING ON THE STORMTRAP MODULES AND FOUNDATION.
- TREE LOADING DISCLAIMER:  
THE NUMBER OF TREES OR WEIGHT OF TOTAL PLANT MATERIAL PRESENT ON TOP OF A SINGLE STORMTRAP MODULE SHALL NOT EXCEED 16,000 LBS. THE REQUIREMENTS LISTED HERE APPLY AT BOTH THE TIME OF INSTALLATION AND FOR THE LIFE OF THE TREES AND PLANTS IN QUESTION. THE EOR AND LANDSCAPE ARCHITECT ARE RESPONSIBLE FOR ENSURING THAT TREE AND OTHER PLANT ROOTS DO NOT INTERFERE WITH OR COMPROMISE THE FUNCTIONAL AND STRUCTURAL INTEGRITY OF STORMTRAP'S UNDERGROUND MODULES. APPROPRIATE MEASURES SHOULD BE TAKEN TO PREVENT ROOT GROWTH INTO THE STORMTRAP SYSTEM FROM ADJACENT OR OVERHEAD TREES. FURTHERMORE, THE ROOTS OF THE TREES MUST BE CONTAINED TO PREVENT FUTURE DAMAGE TO THE STORMTRAP SYSTEM. STORMTRAP ACCEPTS NO LIABILITY FOR DAMAGES CAUSED BY TREES OR OTHER VEGETATION PLACED AROUND OR ON TOP OF THE SYSTEM.

**StormTrap**  
1287 MIDCUM PARKWAY  
ROCKFORD, IL 60446  
P815-941-4549 / F331-318-5347

ENGINEER INFORMATION:  
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Chicago, IL

PROJECT INFORMATION:  
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Waukee -  
Detention 5'-8"  
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SCALE:  
NTS

SHEET TITLE:  
GENERAL NOTES

SHEET NUMBER:  
1.0

STRUCTURAL DESIGN LOADING CRITERIA

LIVE LOADING: AASHTO HS-20 HIGHWAY LOADING  
GROUND WATER TABLE: @ ELEV 1008.45  
SOIL BEARING PRESSURE: 3000 PSF  
SOIL DENSITY: 120 PCF  
EQUIVALENT UNSATURATED  
LATERAL ACTIVE EARTH PRESSURE: 55 PSF / FT. (IF WATER TABLE PRESENT)  
EQUIVALENT SATURATED  
LATERAL ACTIVE EARTH PRESSURE: 80 PSF / FT. (IF WATER TABLE PRESENT)  
APPLICABLE CODES: ASTM C897  
ACI-318  
BACKFILL TYPE: SEE SHEET 4.0 FOR BACKFILL OPTIONS

STORMTRAP SYSTEM INFORMATION

UNIT HEADROOM: 5'-8" SINGLETRAP  
TOTAL STORAGE PROV: 22418.45 CUBIC FEET

SITE SPECIFIC DESIGN CRITERIA

- STORMTRAP UNITS SHALL BE MANUFACTURED AND INSTALLED ACCORDING TO SHOP DRAWINGS APPROVED BY THE INSTALLING CONTRACTOR AND ENGINEER OF RECORD. THE SHOP DRAWINGS SHALL INDICATE SIZE AND LOCATION OF ROOF OPENINGS AND INLET/ OUTLET PIPE TYPES, SIZES, INVERT ELEVATIONS AND SIZE OF OPENINGS.
- COVER RANGE: MIN. 1.00' MAX. 2.55' CONSULT STORMTRAP FOR ADDITIONAL COVER OPTIONS.
- ALL DIMENSIONS AND SOIL CONDITIONS, INCLUDING BUT NOT LIMITED TO GROUNDWATER AND SOIL BEARING CAPACITY ARE REQUIRED TO BE VERIFIED IN THE FIELD BY OTHERS PRIOR TO STORMTRAP INSTALLATION.
- FOR STRUCTURAL CALCULATIONS THE GROUND WATER TABLE IS ASSUMED TO BE @ ELEV 1008.45 IF WATER TABLE IS DIFFERENT THAN ASSUMED, CONTACT STORMTRAP.
- SYSTEM DESIGN INTENT IS TO CONTAIN WATER AND / OR PREVENT GROUNDWATER MIGRATION INTO THE SYSTEM AND WILL NOT BE SUBJECT TO LEAKAGE TESTING. A THIRD PARTY WATER PROOFING SOLUTION IS REQUIRED FOR SEALING OF SYSTEM / MODULE JOINTS AND SEAMS. SOLUTION TO BE PROVIDED AND INSTALLED BY CONTRACTOR IN ACCORDANCE WITH THIRD PARTY WATER-PROOFING SUPPLIER'S PRODUCT SPECIFICATIONS.

**StormTrap**  
1287 MIDCUM PARKWAY  
ROCKFORD, IL 60446  
P815-941-4549 / F331-318-5347

ENGINEER INFORMATION:  
EXP Services -  
Chicago, IL

PROJECT INFORMATION:  
Data Center  
Waukee -  
Detention 5'-8"  
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CURRENT ISSUE DATE:  
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SCALE:  
NTS

SHEET TITLE:  
SINGLETRAP  
DESIGN  
CRITERIA

SHEET NUMBER:  
1.1

BILL OF MATERIALS

QTY.	UNIT TYPE	DESCRIPTION	WEIGHT
14	I	5'-8" SINGLETRAP	15900
0	II	5'-8" SINGLETRAP	0
17	III	5'-8" SINGLETRAP	18254
2	IV	5'-8" SINGLETRAP	17885
0	VII	5'-8" SINGLETRAP	0
0	VII-1	5'-8" SINGLETRAP	0
0	VII-2	5'-8" SINGLETRAP	0
0	VII-3	5'-8" SINGLETRAP	0
0	VII-4	5'-8" SINGLETRAP	0
0	SP11	5'-8" SINGLETRAP VARIES	0
2	SPV	5'-8" SINGLETRAP VARIES	0
0	T2 PANEL	6" THICK PANEL	0
4	T4 PANEL	8" THICK PANEL	4085
0	T7 PANEL	8" THICK PANEL	0
8	JOINTWRAP	150' PER ROLL	0
32	JOINTTAPE	14.5' PER ROLL	0
TOTAL PANELS = 35			
HEAVIEST PICK WEIGHT = 17885			

DESIGN CRITERIA

- ALLOWABLE MAX GRADE = 1015.00'  
ALLOWABLE MIN GRADE = 1013.45'  
INSIDE HEIGHT ELEVATION = 1011.95'  
SYSTEM INVERT = 1006.28'
- NOTES:  
1. DIMENSIONING OF STORMTRAP SYSTEM SHOWN BELOW ALLOW FOR A 3/4" GAP BETWEEN EACH MODULE.  
2. ALL DIMENSIONS TO BE VERIFIED IN THE FIELD BY OTHERS.  
3. SEE SHEET 3.0 FOR INSTALLATION SPECIFICATIONS.  
4. SP - INDICATES A MODULE WITH MODIFICATIONS.  
5. P - INDICATES A MODULE WITH A PANEL ATTACHMENT.  
6. CONTRACTORS RESPONSIBILITY TO ENSURE CONSISTENCY/ACCURACY TO FINAL ENGINEER OF RECORD PLAN SET.  
7. IN ORDER FOR STORMTRAP TO GENERATE APPROVAL DRAWINGS, CIVIL ENGINEERING DRAWINGS MUST BE PROVIDED TO STORMTRAP AND SHALL INCLUDE ALL PIPE SIZES, PIPE MATERIAL, PIPE INVERT ELEVATIONS, ACCESS OPENING SIZE AND SHAPE. IN ADDITION, FINAL GRADING PLANS SHALL ALSO INCLUDE MINIMUM AND MAXIMUM GRADES OVER THE TOP OF THE STORMTRAP SYSTEM.

**StormTrap**  
1287 MIDCUM PARKWAY  
ROCKFORD, IL 60446  
P815-941-4549 / F331-318-5347

ENGINEER INFORMATION:  
EXP Services -  
Chicago, IL

PROJECT INFORMATION:  
Data Center  
Waukee -  
Detention 5'-8"  
ST Option  
Waukee, IA

CURRENT ISSUE DATE:  
9/23/2025

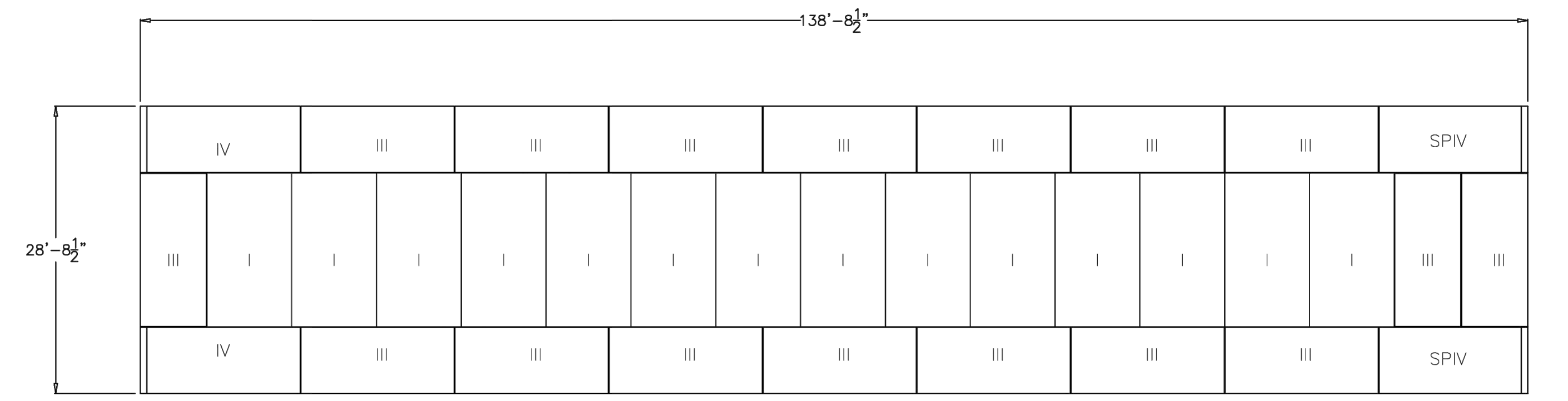
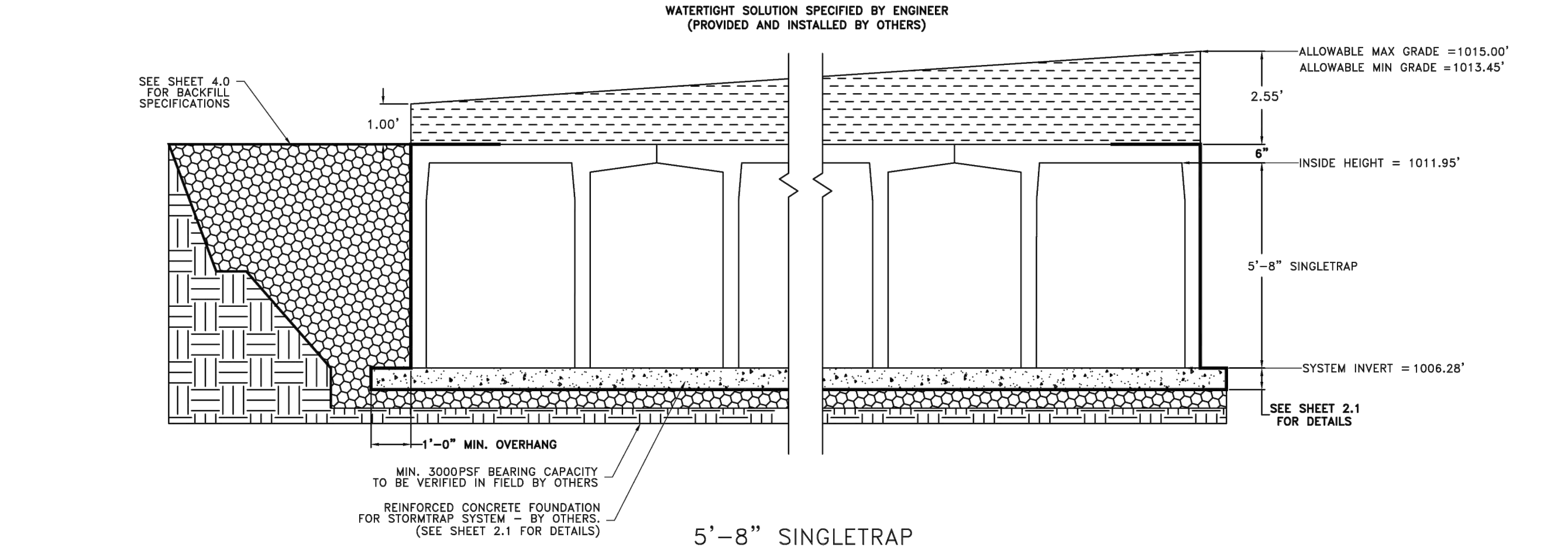
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REV.	DATE	ISSUED FOR:	DWN BY:
1	9/23/2025	PRELIMINARY	JPH
2	8/19/2025	PRELIMINARY	JPH
1	08/15/2025	PRELIMINARY	EB

SCALE:  
NTS

SHEET TITLE:  
SINGLETRAP  
SYSTEM LAYOUT

SHEET NUMBER:  
2.0



**etzel** ENGINEER & BUILD  
205 West Waukegan Street, Waukegan, IL 60085  
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27777 Franklin Road, Suite 110, Waukegan, IL 60085  
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DES MOINES DATA CENTER  
Us Signal  
390 NE Alice's Road  
Waukee, IA 50263

NO. DATE REVISION  
07/22/25 00 ISSUE  
08/26/25 SITE PLAN REVIEW  
09/12/25 75% ISSUE  
09/23/25 SITE PLAN 2ND REVIEW  
10/10/25 BID ISSUE  
10/22/25 SITE PLAN 3RD REVIEW

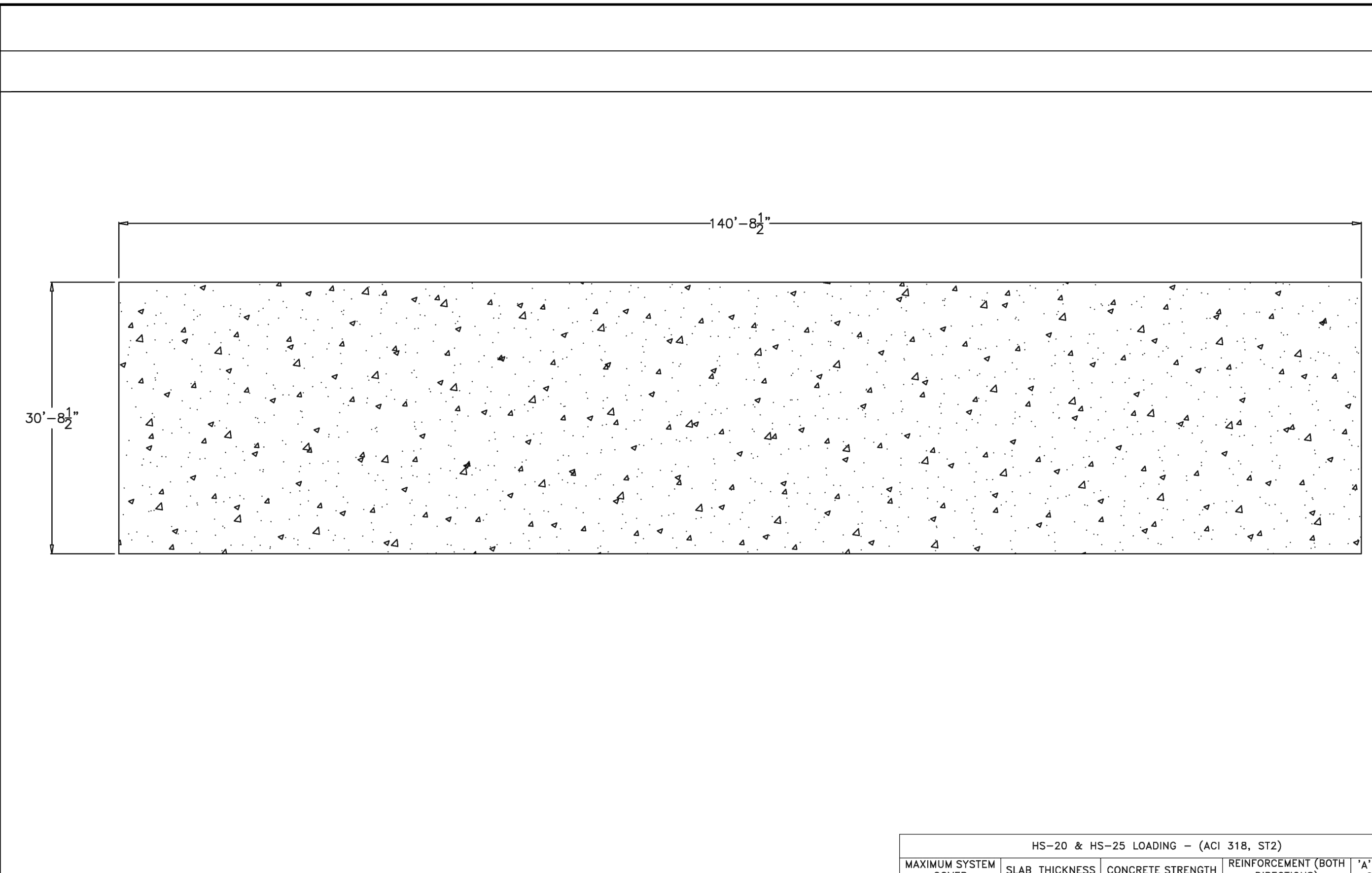
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PROJECT DATE: 10/22/25  
DRAWN BY: M/W  
CHECKED BY: NSK  
SCALE: AS SHOWN

DRAWING TITLE  
CIVIL  
DETAILS

DRAWING NUMBER  
C-604



SITE PLAN 3RD REVIEW



**StormTrap**  
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 1207 WINDHAM PARKWAY  
 ROCKFORD, IL 60446  
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 Chicago, IL

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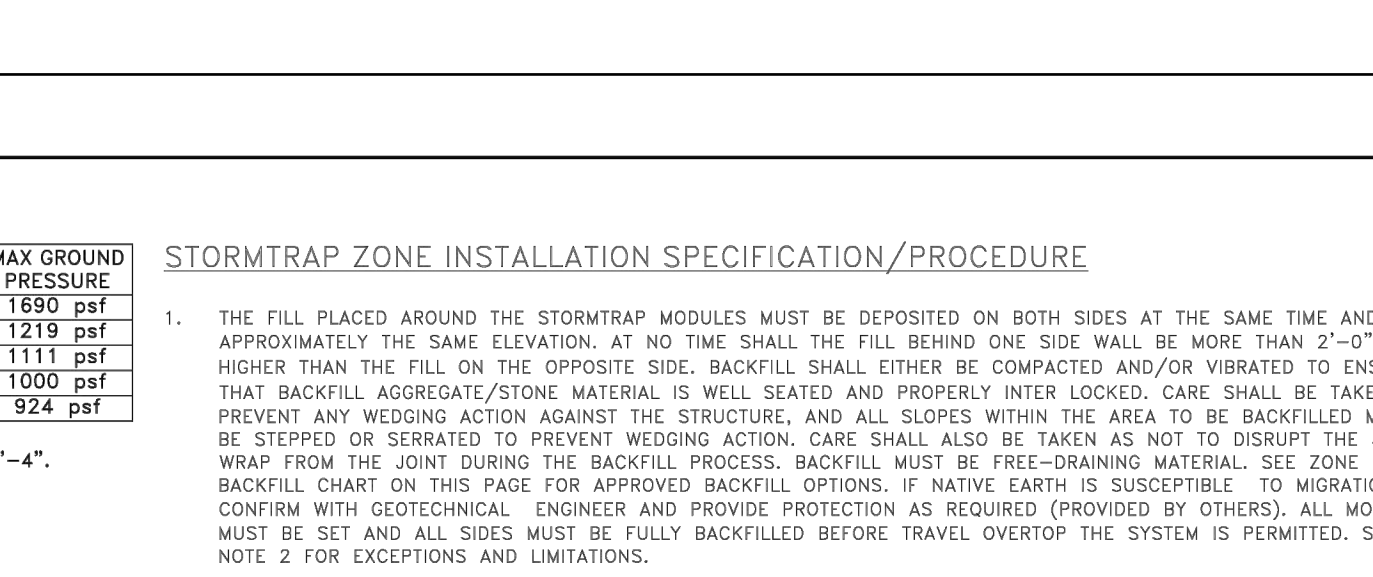
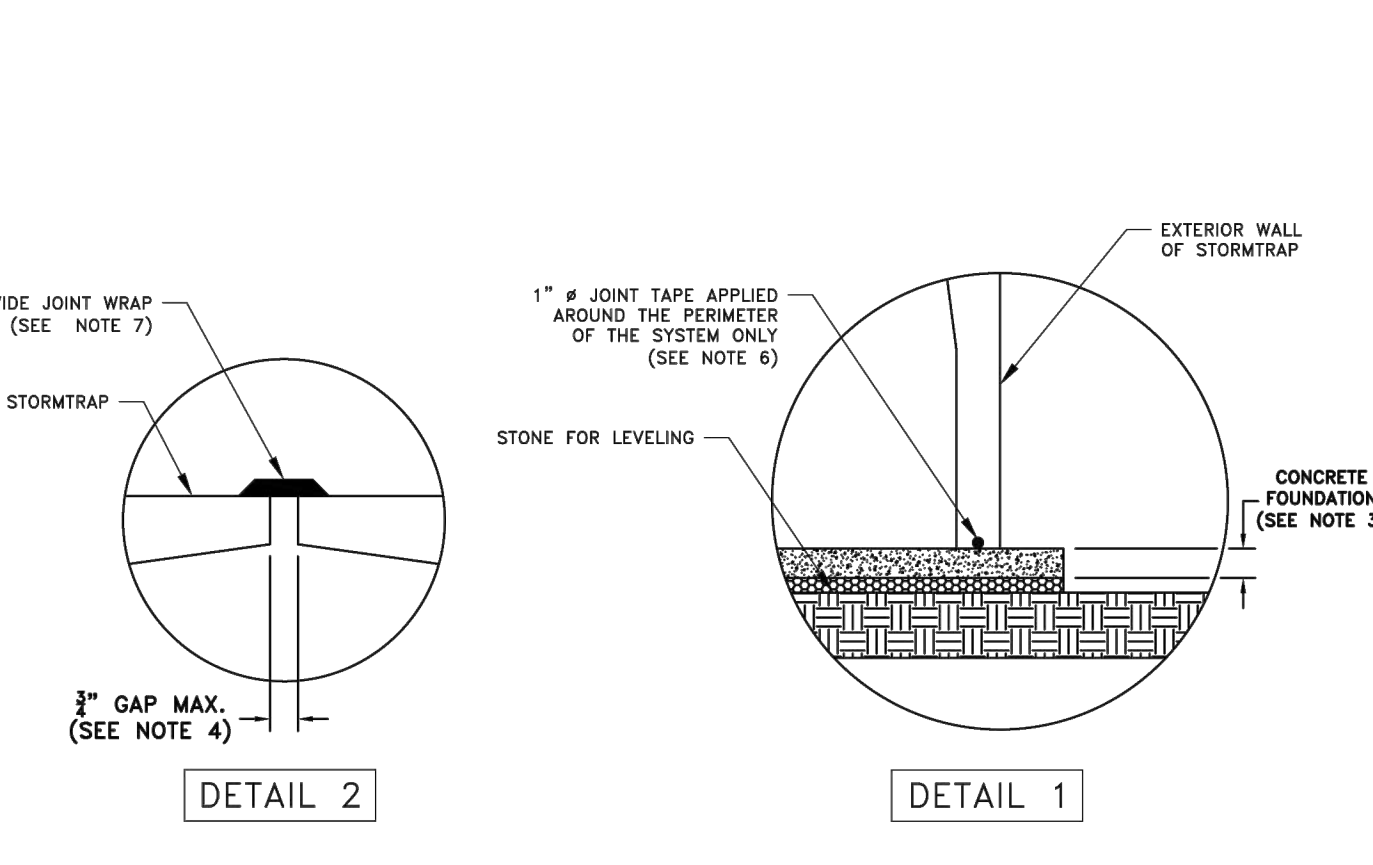
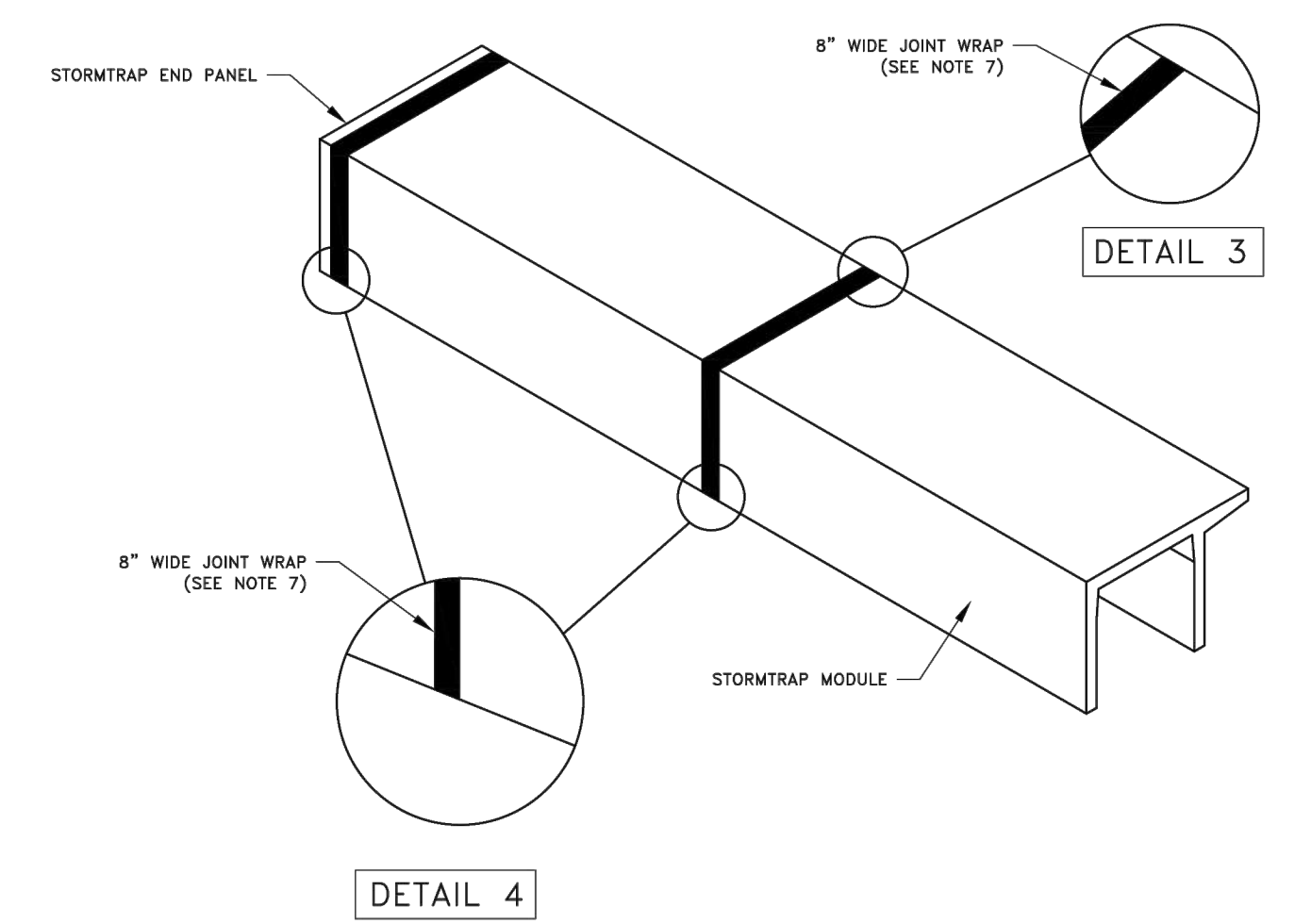
**SCALE:**  
 NTS

**SHEET TITLE:**  
 SINGLETRAP FOUNDATION LAYOUT

**SHEET NUMBER:**  
 2.1

**STORMTRAP INSTALLATION SPECIFICATION**

- STORMTRAP SHALL BE INSTALLED IN ACCORDANCE WITH ASTM C891 (STANDARD PRACTICE FOR INSTALLATION OF UNDERGROUND PRECAST CONCRETE UTILITY STRUCTURES). THE FOLLOWING ADDITIONS AND/OR EXCEPTIONS ARE PROVIDED FOR EMPHASIS. THE NOTION OF THESE ITEMS DOES NOT PRECLUDE THE INSTALLING CONTRACTOR FROM FOLLOWING ASTM C891 IN ITS ENTIRETY AND IMPLEMENTING ALL APPROPRIATE MEASURES. THE INSTALLING CONTRACTOR OWNS AND IS RESPONSIBLE FOR THE STORMTRAP SYSTEM UPON REMOVAL OF THE MODULES FROM THE DELIVERY TRUCK THROUGH "FINAL CONSTRUCTION". FINAL CONSTRUCTION IS ACHIEVED WHEN ALL MODULES ARE SET, FULLY BACKFILLED, AND WHEN FINAL FINISHED GRADE IS REACHED. THE CONTRACTOR IS RESPONSIBLE FOR ANY COUNTERMEASURES NECESSARY TO RESIST UPLIFT/BUOYANCY BEFORE "FINAL CONSTRUCTION" IS ACHIEVED.
- IT IS THE RESPONSIBILITY OF THE INSTALLING CONTRACTOR TO ENSURE THAT PROPER/ADEQUATE EQUIPMENT IS USED TO SET/INSTALL THE MODULES.
- STORMTRAP MODULES SHALL BE PLACED ON A LEVEL CONCRETE FOUNDATION (SEE SHEET 2.1) WITH A 1'-0" OVERHANG ON ALL SIDES THAT SHALL BE PROVIDED BY INSTALLING CONTRACTOR. A QUALIFIED GEOTECHNICAL ENGINEER WILL BE EMPLOYED, BY OWNER, IN EVALUATING THE EXISTING SOIL CONDITIONS TO ENSURE THAT THE SOIL BEARING PRESSURE MEETS OR EXCEEDS THE STRUCTURAL DESIGN LOADING CRITERIA AS SPECIFIED ON SHEET 1.1.
- THE STORMTRAP MODULES SHALL BE PLACED SUCH THAT THE MAXIMUM SPACE BETWEEN ADJACENT MODULES DOES NOT EXCEED 8" (SEE DETAIL 2). IF THE SPACE EXCEEDS 8", THE MODULES SHALL BE RESET WITH APPROPRIATE ADJUSTMENT MADE TO LINE AND GRADE TO BRING THE SPACE INTO SPECIFICATION.
- STORMTRAP MODULES ARE NOT WATER-TIGHT. WATER-TIGHT SOLUTION SPECIFIED BY ENGINEER (PROVIDED AND INSTALLED BY OTHERS).
- THE PERIMETER HORIZONTAL JOINT BETWEEN THE STORMTRAP MODULES AND THE CONCRETE FOUNDATION SHALL BE SEALED TO THE FOUNDATION WITH PRE-FORMED MASTIC JOINT SEALER ACCORDING TO ASTM C891, 8.8 AND 8.12 (SEE DETAIL 1). THE MASTIC JOINT TAPE DOES NOT PROVIDE A WATER-TIGHT SEAL.
- ALL EXTERIOR ROOF AND EXTERIOR VERTICAL WALL JOINTS BETWEEN ADJACENT STORMTRAP MODULES SHALL BE SEALED WITH 8" WIDE PRE-FORMED, COLD-APPLIED, SELF-ADHERING ELASTOMERIC RESIN, BONDED TO A WOVEN, HIGH-TENSILE PUNCTURE RESISTANT POLYMER WRAP, CONFORMING TO ASTM C891 AND SHALL BE INTEGRATED WITH PRIMER SEALANT AS APPROVED BY STORMTRAP (SEE DETAILS 2, 3, & 4). THE JOINT WRAP DOES NOT PROVIDE A WATER-TIGHT SEAL. THE SOLE PURPOSE OF THE JOINT WRAP IS TO PROVIDE A SILENT AND SOIL TIGHT SYSTEM. THE ADHESIVE EXTERIOR JOINT WRAP SHALL BE INSTALLED ACCORDING TO THE FOLLOWING INSTALLATION INSTRUCTIONS:
  - USE A BRUSH OR WET CLOTH TO THOROUGHLY CLEAN THE OUTSIDE SURFACE AT THE POINT WHERE JOINT WRAP IS TO BE APPLIED.
  - A RELEASE PAPER PROTECTS THE ADHESIVE TAPE. PLACE THE ADHESIVE TAPE (ADHESIVE SIDE DOWN) AROUND THE STRUCTURE, REMOVING THE RELEASE PAPER AS YOU GO. PRESS THE JOINT WRAP FIRMLY AGAINST THE STORMTRAP MODULE SURFACE WHEN APPLYING.
- IF THE CONTRACTOR NEEDS TO CANCEL ANY SHIPMENTS, THEY MUST DO SO 48 HOURS PRIOR TO THEIR SCHEDULED ARRIVAL AT THE JOB SITE. IF CANCELED AFTER THAT TIME, PLEASE CONTACT THE PROJECT MANAGER.
- IF THE STORMTRAP MODULE(S) IS DAMAGED IN ANY WAY PRIOR, DURING, OR AFTER INSTALL, STORMTRAP MUST BE CONTACTED IMMEDIATELY TO ASSESS THE DAMAGE AND DETERMINE WHETHER OR NOT THE MODULE(S) WILL NEED TO BE REPLACED. IF ANY MODULE ARRIVES AT THE JOBSITE DAMAGED DO NOT UNLOAD IT; CONTACT STORMTRAP IMMEDIATELY. ANY DAMAGE NOT REPORTED BEFORE THE TRUCK IS UNLOADED WILL BE THE CONTRACTOR'S RESPONSIBILITY.
- STORMTRAP MODULES CANNOT BE ALTERED IN ANY WAY AFTER MANUFACTURING WITHOUT WRITTEN CONSENT FROM STORMTRAP.



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 Chicago, IL

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 Waukee -  
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**CURRENT ISSUE DATE:**  
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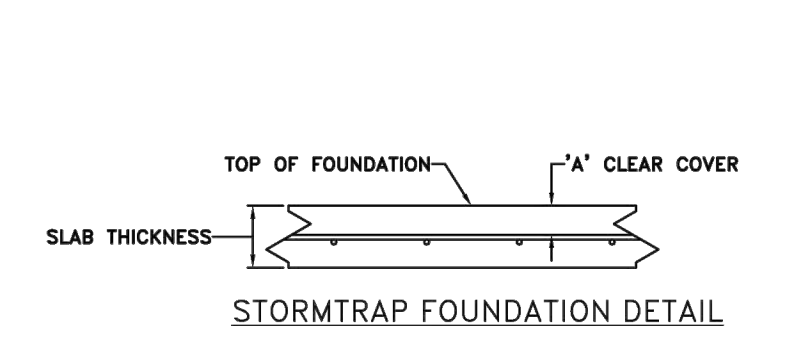
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1	08/15/2025	PRELIMINARY	EB

**SCALE:**  
 NTS

**SHEET TITLE:**  
 SINGLETRAP INSTALLATION SPECIFICATION

**SHEET NUMBER:**  
 3.0

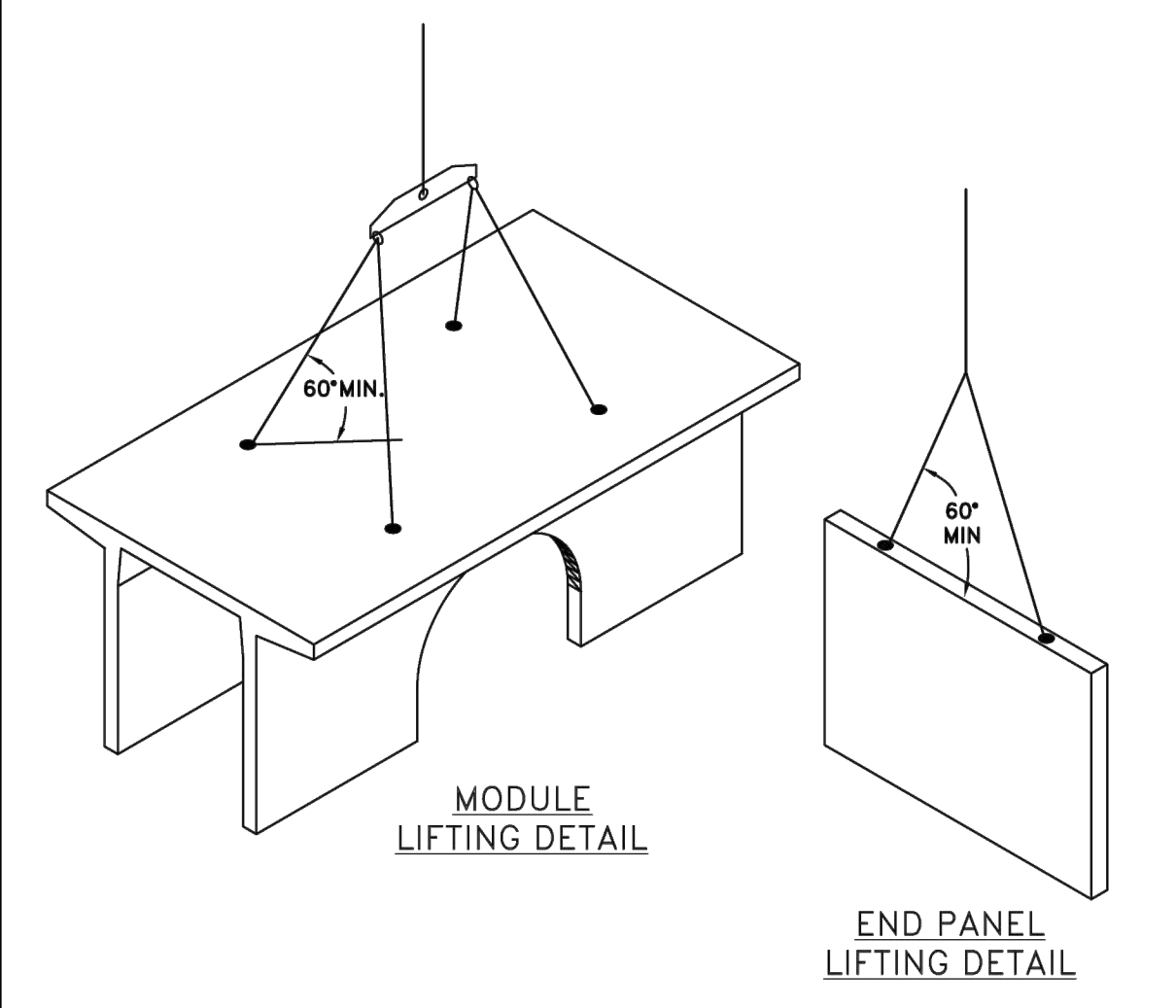
- CONCRETE FOUNDATION NOTES:**
- CONCRETE FOUNDATION TO BE SUPPLIED AND INSTALLED BY OTHERS.
  - CONCRETE STRENGTH 28 DAYS, 56-88 ENRICHED AIR, 3'-5" MAX SLUMP.
  - NET ALLOWABLE SOIL PRESSURE AS INDICATED ON SHEET 1.1.
  - SOIL CONDITIONS TO BE VERIFIED ON SITE BY OTHERS.
  - REBAR: ASTM A615 GRADE 60, BLACK BAR.
  - DIMENSION OF FOUNDATION MUST HAVE 1'-0" OVERHANG BEYOND EXTERNAL FACE OF MODULE.
  - MINIMUM STORMTRAP SYSTEM ALLOW FOR A 3/4" GAP BETWEEN EACH MODULE.
  - ALL DIMENSIONS TO BE VERIFIED IN THE FIELD BY OTHERS.
  - SEE SHEET 3.0 FOR INSTALLATION SPECIFICATIONS.



MAXIMUM SYSTEM COVER	SLAB THICKNESS	CONCRETE STRENGTH	REINFORCEMENT (BOTH DIRECTIONS)	'A' CLEAR COVER
0'-0" - 1'-0"	8"	4000 PSI	#4 @ 18" O.C.	3.5"
1'-1" - 2'-0"	8"	4000 PSI	#4 @ 16" O.C.	3.5"
2'-1" - 3'-0"	8"	4000 PSI	#4 @ 12" O.C.	3.5"
3'-1" - 4'-0"	8"	4000 PSI	#4 @ 12" O.C.	3.5"
4'-1" - 5'-0"	8"	4000 PSI	#5 @ 12" O.C.	3.375"
5'-1" - 6'-0"	8"	4000 PSI	#5 @ 16" O.C.	3.375"
6'-1" - 7'-0"	8"	4000 PSI	#5 @ 12" O.C.	3.375"
7'-1" - 8'-0"	9"	4000 PSI	#5 @ 12" O.C.	3.875"
8'-1" - 9'-0"	9"	4000 PSI	#5 @ 12" O.C.	3.875"
9'-1" - 10'-0"	9"	4000 PSI	#5 @ 12" O.C.	3.875"

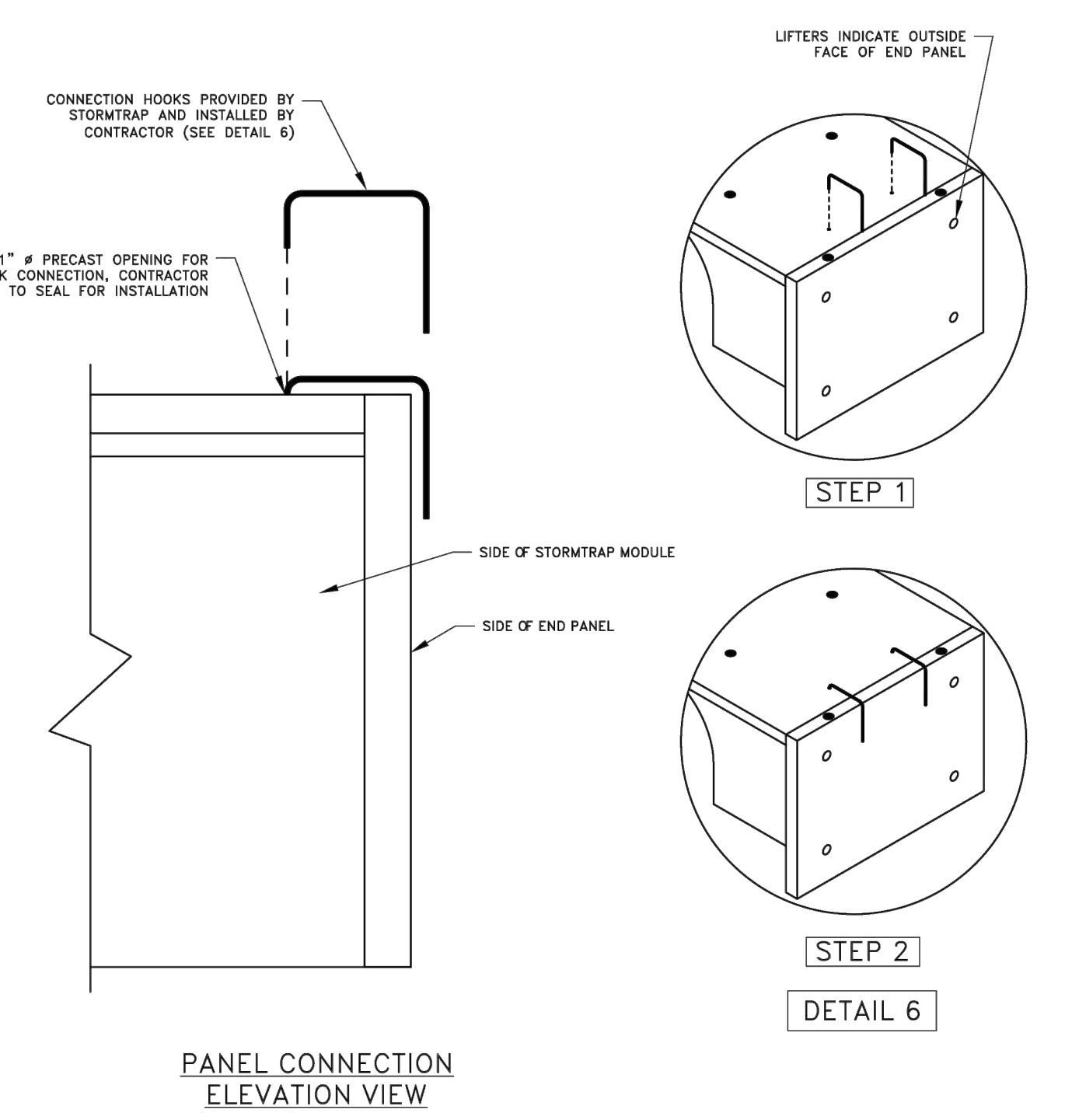
**STORMTRAP MODULE LIFTING SPECIFICATION**

- IT IS THE CONTRACTOR'S RESPONSIBILITY TO ENSURE THAT ALL (4) CHAINS/CABLES ARE SECURED PROPERLY TO THE LIFTING ANCHORS AND IN EQUAL TENSION WHEN LIFTING THE STORMTRAP MODULE (SUPPLIED BY CONTRACTOR).
- MINIMUM 7'-0" CHAIN/CABLE LENGTH TO BE USED TO LIFT STORMTRAP MODULES (SUPPLIED BY CONTRACTOR).
- CONTRACTOR TO ENSURE MINIMUM LIFTING ANGLE IS 60° FROM TOP SURFACE OF STORMTRAP MODULE. SEE DETAIL.
- IT IS UNDERSTOOD AND AGREED THAT AT ALL TIMES DURING WHICH HOISTING AND RIGGING EQUIPMENT IS BEING SUPPLIED TO THE PURCHASER, OPERATOR OF SUCH EQUIPMENT SHALL BE IN CHARGE OF HIS ENTIRE EQUIPMENT AND SHALL AT ALL TIMES BE THE JUDGE OF THE SAFETY AND PROPERITY OF ANY SUGGESTION TO HIM FROM THE SELLER, ITS AGENTS OR EMPLOYEES. PURCHASER AGREES TO SAVE, INDEMNIFY AND HOLD HARMLESS SELLER FROM ALL LOSS, CLAIMS, DAMAGES OR CAUSES OF ACTION, WHICH MAY ARISE FROM THE EXISTENCE OR OPERATION OF SAID EQUIPMENT.



**END PANEL ERECTION/INSTALLATION SPECIFICATION**

- END PANELS WILL BE SUPPLIED TO CLOSE OFF OPEN ENDS OF ROWS.
- PANELS SHALL BE INSTALLED IN A TILT UP FASHION DIRECTLY ADJACENT TO OPEN END OF MODULE (REFER TO SHEET 2.0 FOR END PANEL LOCATIONS). SIDE WITH LIFTERS INDICATES OUTSIDE FACE.
- CONNECTION HOOKS WILL BE SUPPLIED WITH END PANELS TO SECURELY CONNECT PANEL TO ADJACENT STORMTRAP MODULE (SEE PANEL CONNECTION ELEVATION VIEW).
- ONCE CONNECTION HOOK IS ATTACHED, LIFTING CLUTCHES MAY BE REMOVED.
- JOINT WRAP SHALL BE PLACED AROUND PERIMETER JOINT PANEL (SEE SHEET 3.0).



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 1207 WINDHAM PARKWAY  
 ROCKFORD, IL 60446  
 P815-841-4549 / F331-318-5347

**ENGINEER INFORMATION:**  
 EXP Services -  
 Chicago, IL

**PROJECT INFORMATION:**  
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 Waukee -  
 Detention 5'-8"  
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1	08/15/2025	PRELIMINARY	JPH
2	8/19/2025	PRELIMINARY	JPH
1	08/15/2025	PRELIMINARY	EB

**SCALE:**  
 NTS

**SHEET TITLE:**  
 SINGLETRAP INSTALLATION SPECIFICATION

**SHEET NUMBER:**  
 3.1

**ZONE CHART**

ZONES	ZONE DESCRIPTIONS	REMARKS
ZONE 1	FOUNDATION AGGREGATE	#5 (1") STONE ANGULAR AGGREGATE (SEE NOTE 4)
ZONE 2	BACKFILL	UNIFIED SOILS CLASSIFICATION (GW, GP, SW, SP) OR SEE BELOW FOR APPROVED BACKFILL OPTIONS
ZONE 3	FINAL COVER OVERTOP	MATERIALS NOT TO EXCEED 120 PCF

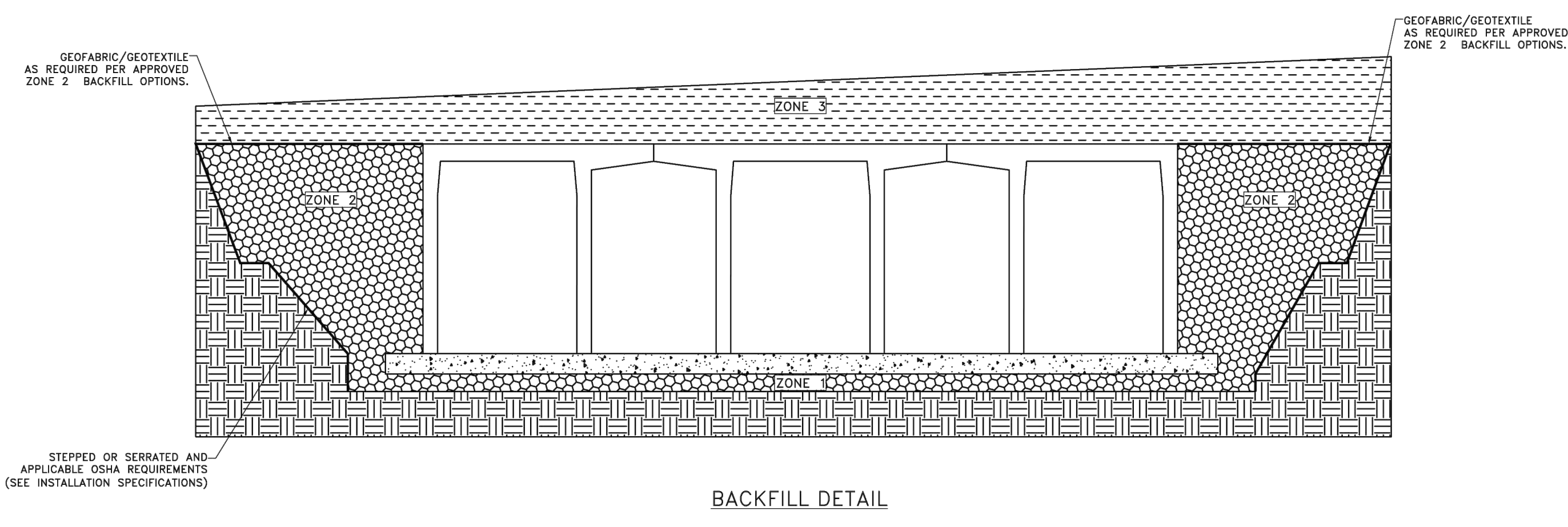
**FILL TRACK MAX VEHICLE MAX GROUND**

DEPTH	WIDTH	WEIGHT (KIPS)	PRESSURE
12"	51.5	1219 DFT	
18"	56.1	1219 DFT	
24"	68.1	1111 DFT	
30"	78.7	1000 DFT	
36"	85.0	924 DFT	

NOTE: TRACK LENGTH NOT TO EXCEED 15'-4". ONLY TWO TRACKS PER VEHICLE.

**APPROVED ZONE 2 BACKFILL OPTIONS**

OPTION	REMARKS
1" STONE AGGREGATE	THE STONE AGGREGATE SHALL CONSIST OF CLEAN AND FREE DRAINING ANGULAR MATERIAL. THE SIZE MATERIAL SHALL HAVE 100% PASSING THE 1" SIEVE AND OR TO 3% PASSING THE #8 SIEVE. THE MATERIAL SHALL BE SEPARATED FROM NATIVE MATERIAL USING GEOFABRIC AROUND THE PERIMETER OF THE BACKFILL (ASTM SIZE #87) AS DETERMINED BY THE GEOTECHNICAL ENGINEER.
SAND	IMPORTED PURE SAND IS PERMITTED TO BE USED AS BACKFILL IF IT IS CLEAN AND FREE DRAINING. THE SAND USED FOR BACKFILLING SHALL HAVE LESS THAN 40% PASSING #40 SIEVE AND LESS THAN 2% PASSING #200 SIEVE. THIS MATERIAL SHALL BE SEPARATED FROM NATIVE MATERIAL USING GEOFABRIC AROUND THE PERIMETER OF THE SAND BACKFILL.
CRUSHED CONCRETE AGGREGATE	CLEAN, FREE DRAINING CRUSHED CONCRETE AGGREGATE MATERIAL CAN BE USED AS BACKFILL FOR STORMTRAP MODULES. THE SIZE OF THIS MATERIAL SHALL HAVE 100% PASSING THE 1" SIEVE WITH OR TO 3% PASSING THE #8 SIEVE. THIS MATERIAL SHALL BE SEPARATED FROM NATIVE MATERIAL USING GEOFABRIC AROUND THE PERIMETER OF THE BACKFILL.
ROAD PACK	STONE AGGREGATE 100% PASSING THE 1-1/2" SIEVE WITH LESS THAN 12% PASSING THE #200 SIEVE (ASTM SIZE #497). GEOFABRIC AS PER GEOTECHNICAL ENGINEER RECOMMENDATION.



**STORMTRAP ZONE INSTALLATION SPECIFICATION/PROCEDURE**

- THE FILL PLACED AROUND THE STORMTRAP MODULES MUST BE DEPOSITED ON BOTH SIDES AT THE SAME TIME AND TO APPROXIMATELY THE SAME ELEVATION. AT NO TIME SHALL THE FILL BEHIND ONE SIDE BE MORE THAN 2'-0" HIGHER THAN THE FILL ON THE OPPOSITE SIDE. BACKFILL SHALL EITHER BE COMPACTED AND/OR VIBRATED TO ENSURE THAT BACKFILL AGGREGATE/STONE MATERIAL IS WELL SEATED AND PROPERLY INTER LOCKED. CARE SHALL BE TAKEN TO PREVENT ANY WEDGING ACTION AGAINST THE STRUCTURE, AND ALL SLOPES WITHIN THE AREA TO BE BACKFILLED MUST BE STEPPED OR SERRATED TO PREVENT WEDGING ACTION. CARE SHALL ALSO BE TAKEN AS NOT TO DISRUPT THE JOINT WRAP FROM THE JOINT DURING THE BACKFILL PROCESS. BACKFILL MUST BE FREE-DRAINING MATERIAL. SEE ZONE 2 BACKFILL CHART ON THIS PAGE FOR APPROVED BACKFILL OPTIONS. IF NATIVE EARTH IS SUSCEPTIBLE TO MOISTURE, CONFIRM WITH GEOTECHNICAL ENGINEER AND PROVIDE PROTECTION AS REQUIRED (PROVIDED BY OTHERS). ALL MODULES MUST BE SET AND ALL SIDES MUST BE FULLY BACKFILLED BEFORE TRAVEL OVERTOP THE SYSTEM IS PERMITTED. SEE NOTE 2 FOR EXCEPTIONS AND LIMITATIONS.
- THE FILL PLACED OVERTOP THE SYSTEM SHALL BE PLACED IN MINIMUM 6" LIFTS. AT NO TIME SHALL MACHINERY OR VEHICLES GREATER THAN THE DESIGN LINE LOAD LISTED ON SHEET 1.1 TRAVEL OVERTOP THE SYSTEM. IF TRAVEL OVER THE SYSTEM OCCURS BEFORE THE MINIMUM DESIGN COVER IS ACHIEVED, IT MAY BE NECESSARY TO REDUCE THE ULTIMATE LOAD/BURDEN OF THE OPERATING MACHINERY SO AS TO NOT EXCEED THE DESIGN CAPACITY OF THE SYSTEM. VEHICLES AND MACHINERY USED TO PLACE FILL MATERIAL ON TOP OF THE SYSTEM SHALL TRAVEL PARALLEL TO THE LONGITUDINAL AXIS OF THE STORMTRAP MODULES WHENEVER POSSIBLE.
- THE VIBRATORY FUNCTION OF ANY ROLLER, COMPACTOR, VEHICLE, ETC. SHALL NOT BE USED OVERTOP THE SYSTEM WITHOUT PRIOR APPROVAL FROM STORMTRAP. IN SOME CASES, HAND COMPACTION MAY BE NECESSARY TO ENSURE THAT THE ALLOWABLE DESIGN LOADING IS NOT EXCEEDED.
- STONE AGGREGATE FOUNDATION IN ZONE 1 IS FOR LEVELING PURPOSES.

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 Chicago, IL

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**SCALE:**  
 NTS

**SHEET TITLE:**  
 SINGLETRAP BACKFILL SPECIFICATION

**SHEET NUMBER:**  
 4.0

**us signal**

**etzel** ENGINEER & BUILDER  
205 West Valley Street, Southport PA, 19088  
 PH (717) 524-1290 WWW.EtzelEng.com

**exp.** EXP. U.S. SERVICES INC.  
200 West Valley Street, Southport PA, 19088  
 PH (717) 524-1290 WWW.ExpEng.com

DES MOINES DATA CENTER  
 390 NE Alice's Road  
 Waukee, IA 50263

NO.	DATE	REVISION
	07/22/25	CD ISSUE
	08/26/25	SITE PLAN REVIEW
	09/12/25	75% ISSUE
	09/23/25	SITE PLAN 2ND REVIEW
	10/10/25	BID ISSUE
	10/22/25	SITE PLAN 3RD REVIEW

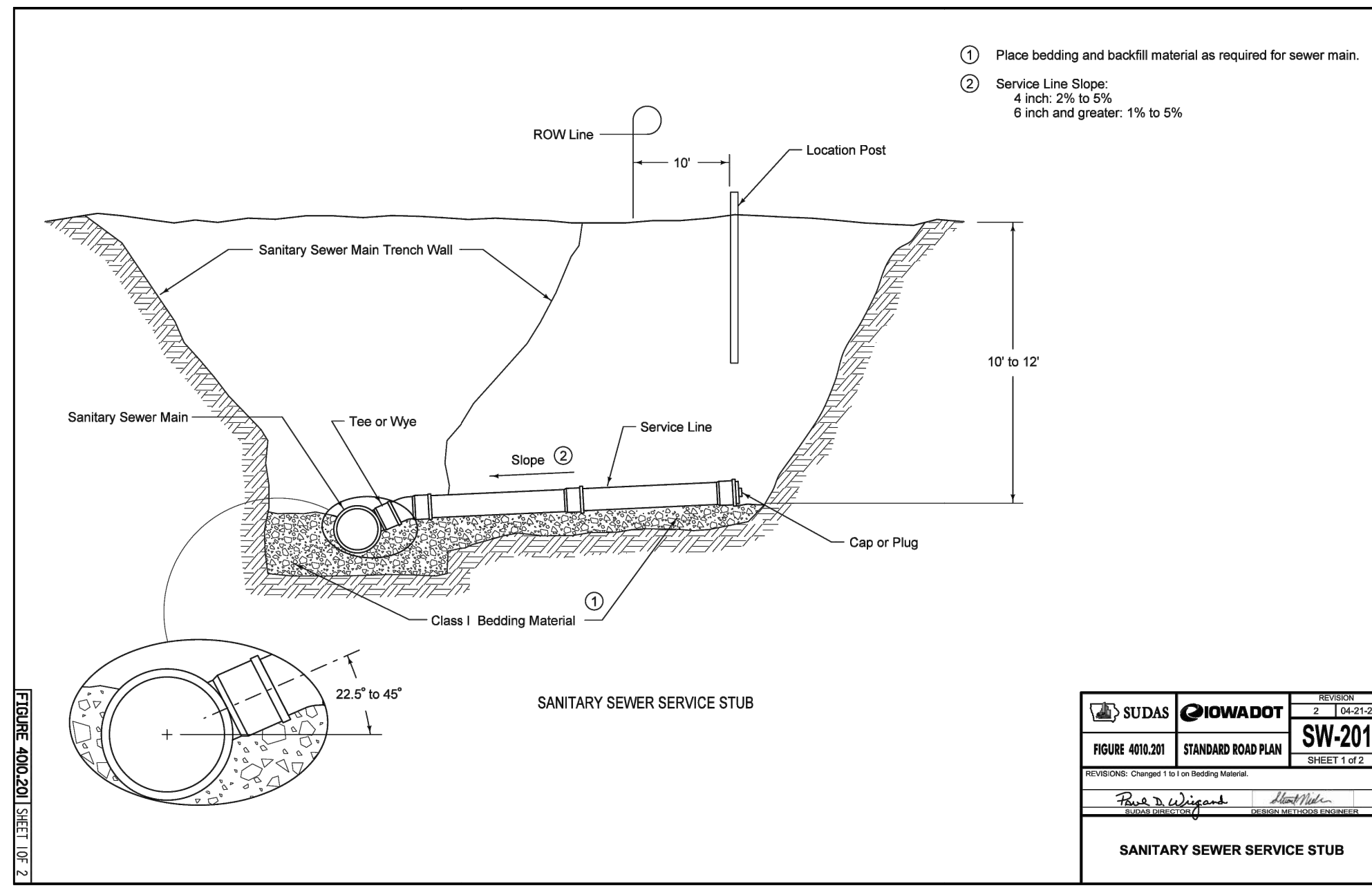
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 PROJECT DATE: 10/22/25  
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 SCALE: AS SHOWN

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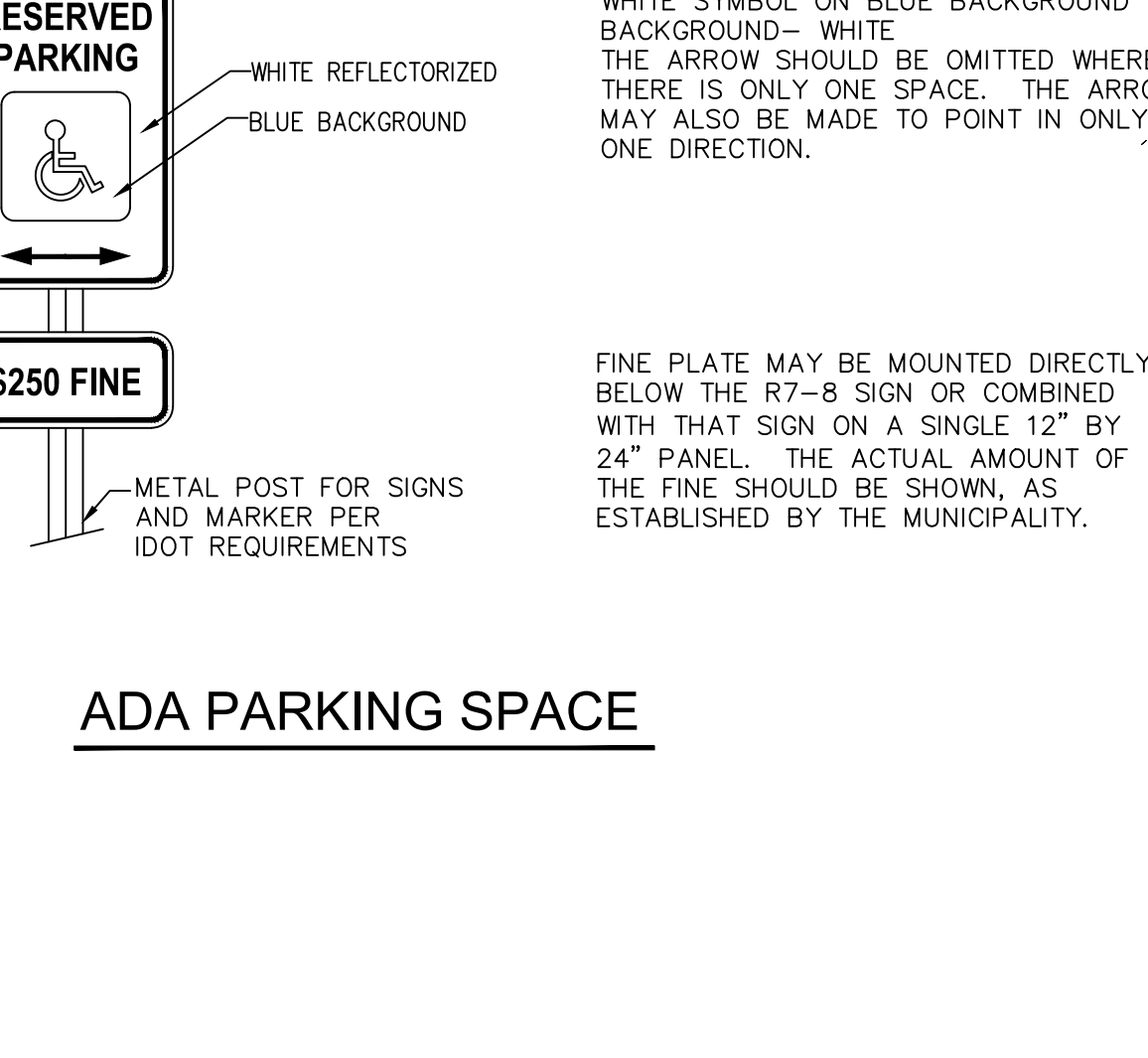
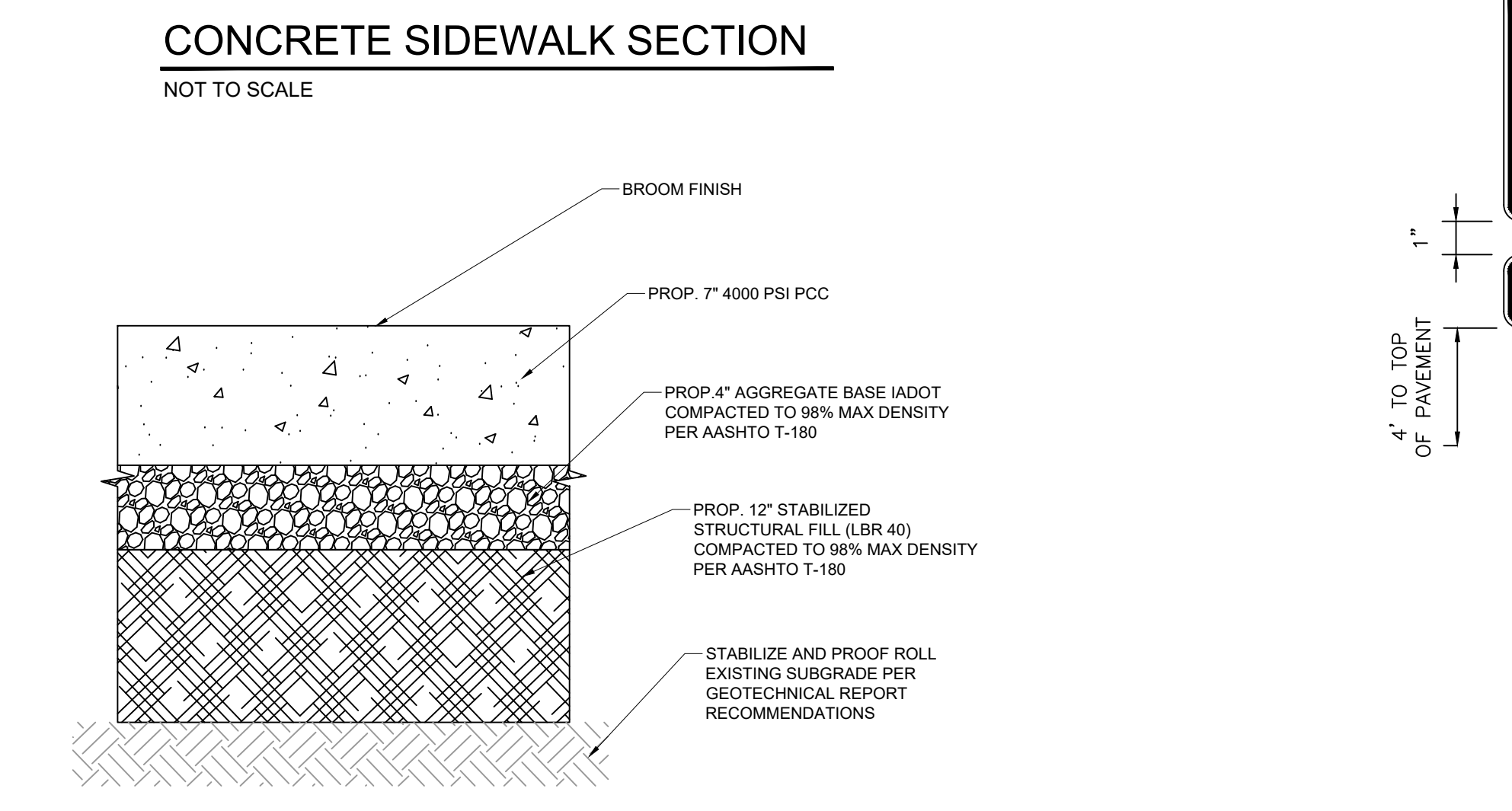
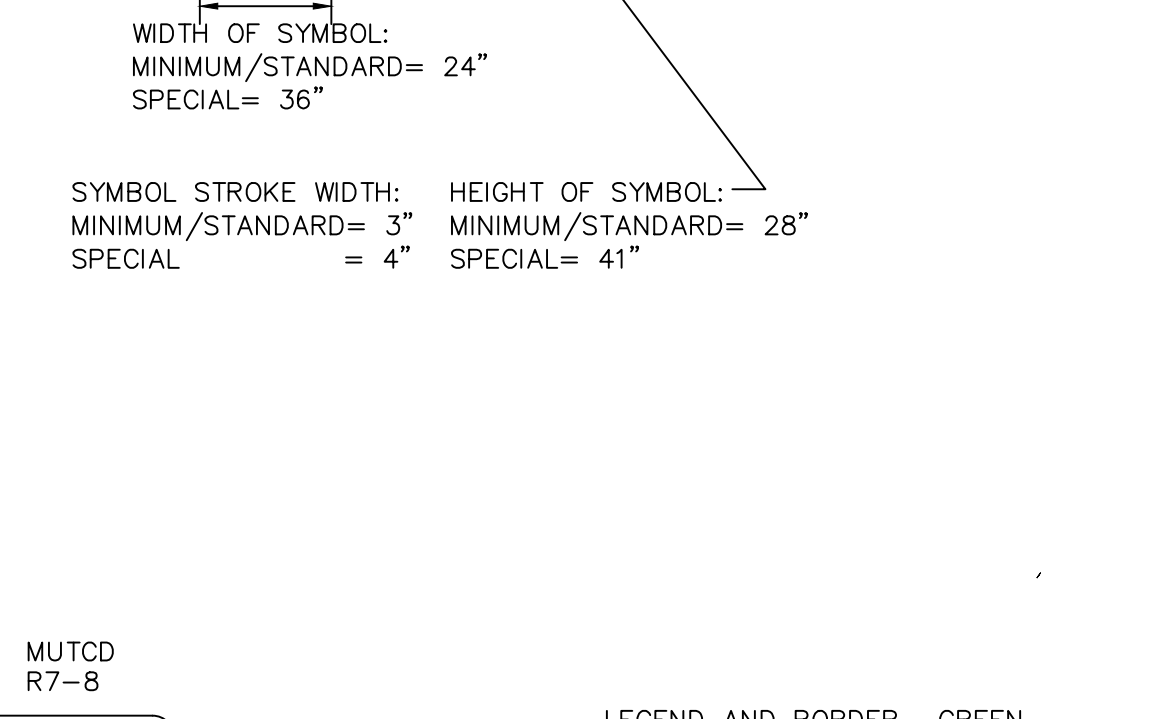
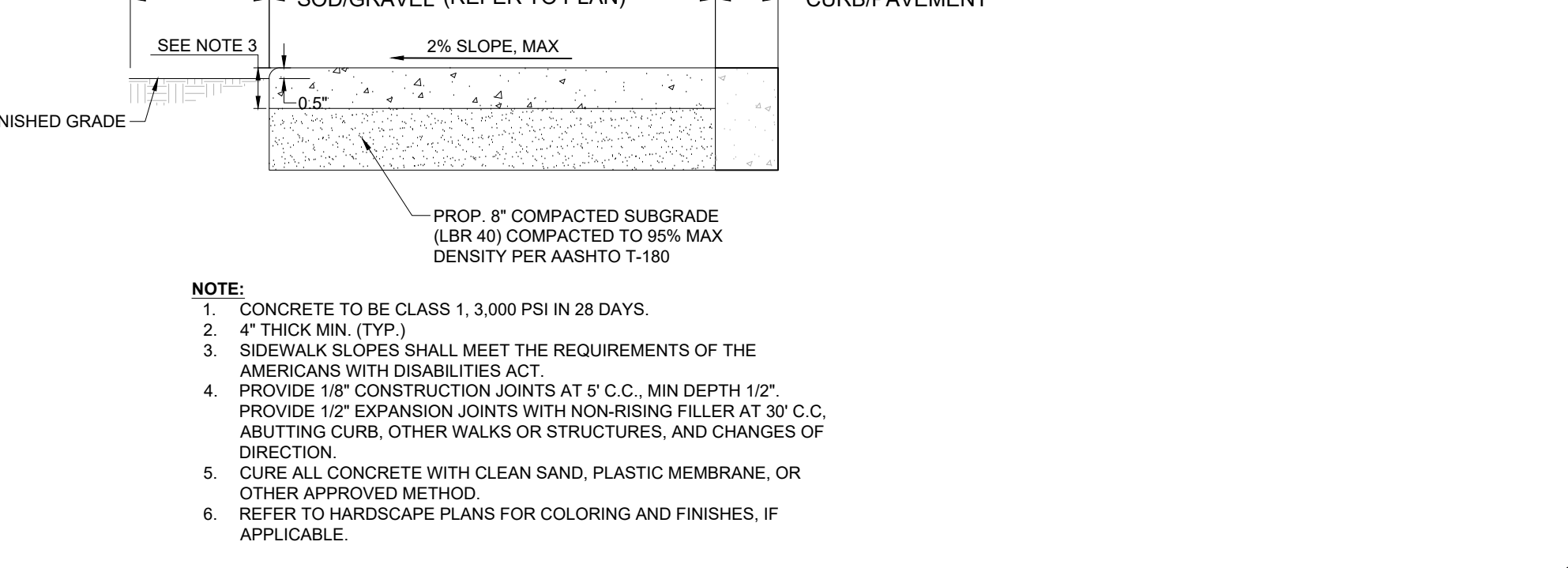
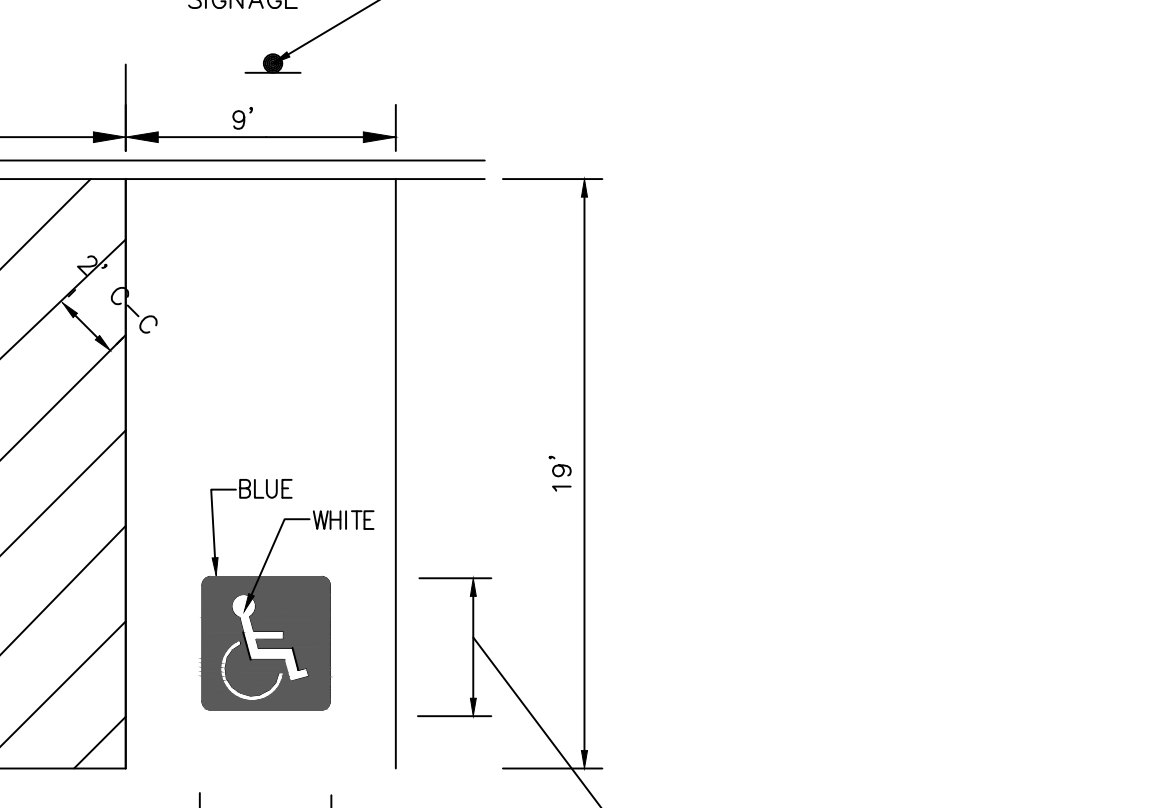
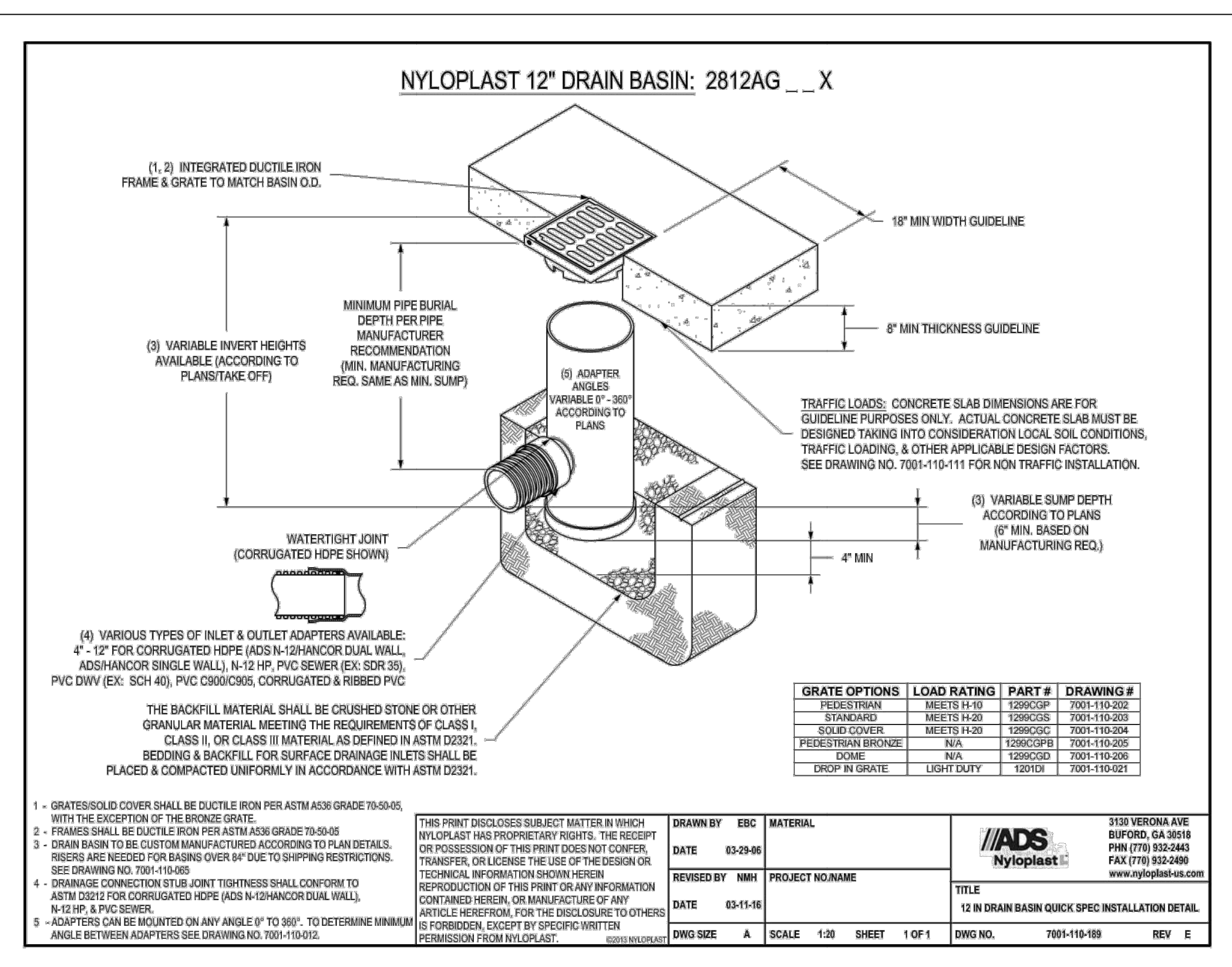
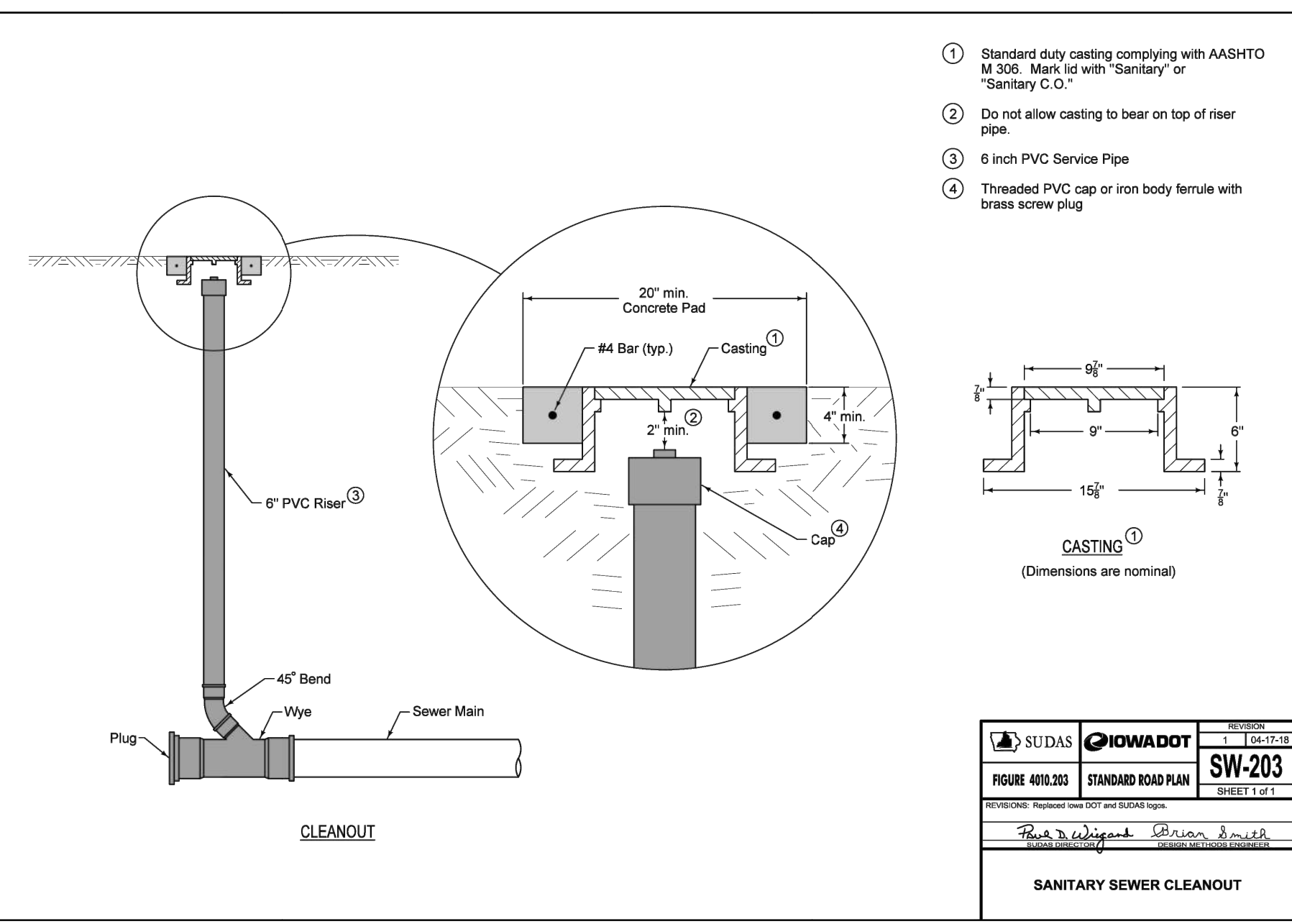
DRAWING NUMBER  
 C-605



SITE PLAN 3RD REVIEW

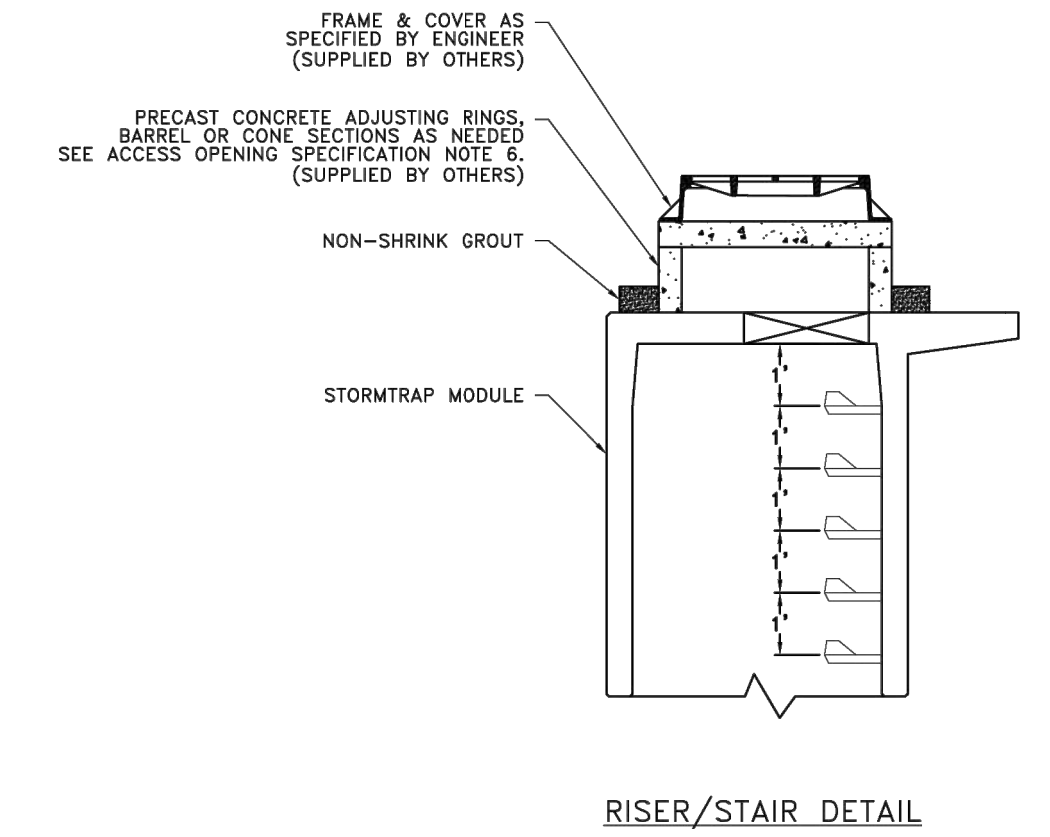
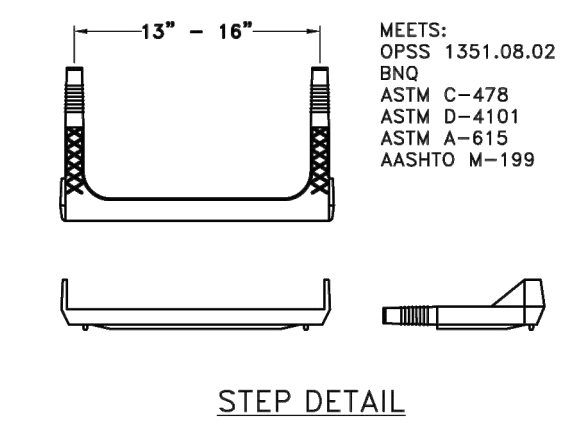


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FIGURE 400.00	STANDARD ROAD PLAN	
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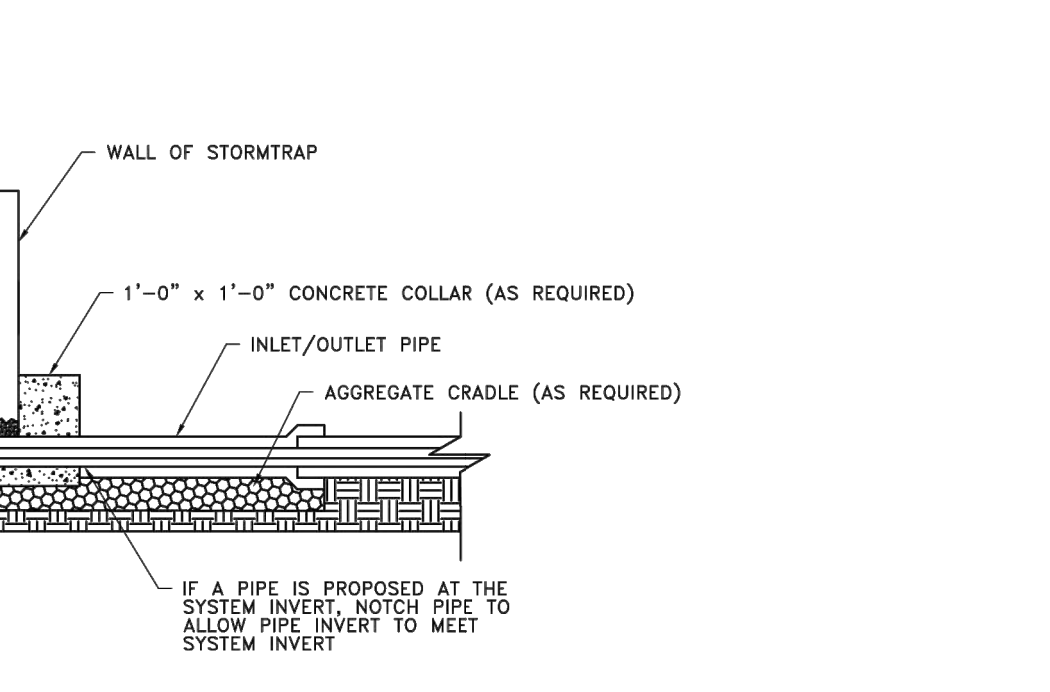
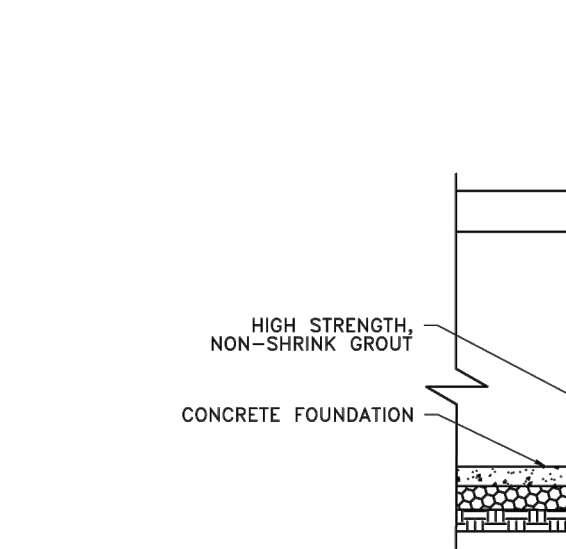
ACCESS OPENING SPECIFICATION

- A TYPICAL ACCESS OPENING FOR THE STORMTRAP SYSTEM ARE 2'-0" IN DIAMETER. ACCESS OPENINGS LARGER THAN 4'-0" IN DIAMETER NEED TO BE APPROVED BY STORMTRAP. ALL OPENINGS MUST REMAIN AT LEAST 2'-0" OF CLEARANCE FROM THE END OF THE STORMTRAP MODULE UNLESS NOTED OTHERWISE. ALL ACCESS OPENINGS TO BE LOCATED ON INSIDE LEG UNLESS OTHERWISE SPECIFIED. SEE SHEET 2.0 FOR SIZES AND LOCATIONS.
- UNLESS OTHERWISE SPECIFIED, PLASTIC COATED STEPS ARE PROVIDED INSIDE ANY MODULE WHERE DEEMED NECESSARY. THE HIGHEST STEP IN THE MODULE IS TO BE PLACED A DISTANCE OF 1'-0" FROM THE INSIDE EDGE OF THE STORMTRAP MODULES. ALL ENSURING STEPS SHALL BE PLACED AT A DISTANCE BETWEEN 10" MIN AND 14" MAX BETWEEN THEM. STEPS MAY BE MOVED OR ALTERED TO AVOID OPENINGS OR OTHER IRREGULARITIES IN THE MODULE.
- STORMTRAP LIFTING INSERTS MAY BE RELOCATED TO AVOID INTERFERENCE WITH ACCESS OPENINGS OR THE CENTER OF GRAVITY OF THE MODULE AS NEEDED.
- STORMTRAP ACCESS OPENINGS MAY BE RELOCATED TO AVOID INTERFERENCE WITH INLET AND/OR OUTLET PIPE OPENINGS SO PLACEMENT OF STEPS IS ATTAINABLE.
- ACCESS OPENINGS SHOULD BE LOCATED IN ORDER TO MEET THE APPROPRIATE MUNICIPAL REQUIREMENTS. STORMTRAP RECOMMENDS AT LEAST TWO ACCESS OPENINGS PER SYSTEM FOR ACCESS AND INSPECTION.
- USE PRECAST ADJUSTING RINGS AS NEEDED TO MEET GRADE. STORMTRAP RECOMMENDS FOR COVER OVER 2' TO USE PRECAST BARREL OR CONE SECTIONS. (PROVIDED BY OTHERS)



PIPE OPENING SPECIFICATION

- MINIMUM EDGE DISTANCE FOR AN OPENING ON THE OUTSIDE WALL SHALL BE NO LESS THAN 1'-0".
- CONNECTING PIPES MAY BE INSTALLED WITH A 1'-0" CONCRETE COLLAR AND AN AGGREGATE CRADLE (AS REQUIRED) FOR AT LEAST ONE PIPE LENGTH (SEE PIPE CONNECTION DETAILS). A STRUCTURAL GRADE CONCRETE OR HIGH STRENGTH NON-SHRINK GROUT WITH A MINIMUM 28 DAY COMPRESSIVE STRENGTH OF 3000 PSI MAY BE USED.
- THE ANNULAR SPACE BETWEEN THE PIPE AND THE HOLE SHALL BE FILLED WITH HIGH STRENGTH NON-SHRINK GROUT.



StormTrap

1287 MIDWAY PARKWAY  
ROMEOVILLE, IL 60446  
P815-941-6549 / F351-318-6567

ENGINEER INFORMATION:  
EXP Services - Chicago, IL

PROJECT INFORMATION:  
Data Center - Wauke - Detention 5'-8" ST Option Wauke, IA

CURRENT ISSUE DATE:  
9/23/2025

ISSUED FOR:  
PRELIMINARY

REV	DATE	ISSUED FOR	OWN	BY
1	08/15/2025	PRELIMINARY	ER	
2	8/16/2025	PRELIMINARY	JPH	
3	9/23/2025	PRELIMINARY	JPH	

SCALE:  
N/A

SHEET TITLE:  
PIPE / ACCESS OPENING SPECIFICATION

SHEET NUMBER:  
5.0

us signal

etzel ENGINEER & BUILD

exp.

205 West Water Street, Suite 1010  
Waukegan, IL 60087  
P: 815.496.4000  
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www.us-signal.com

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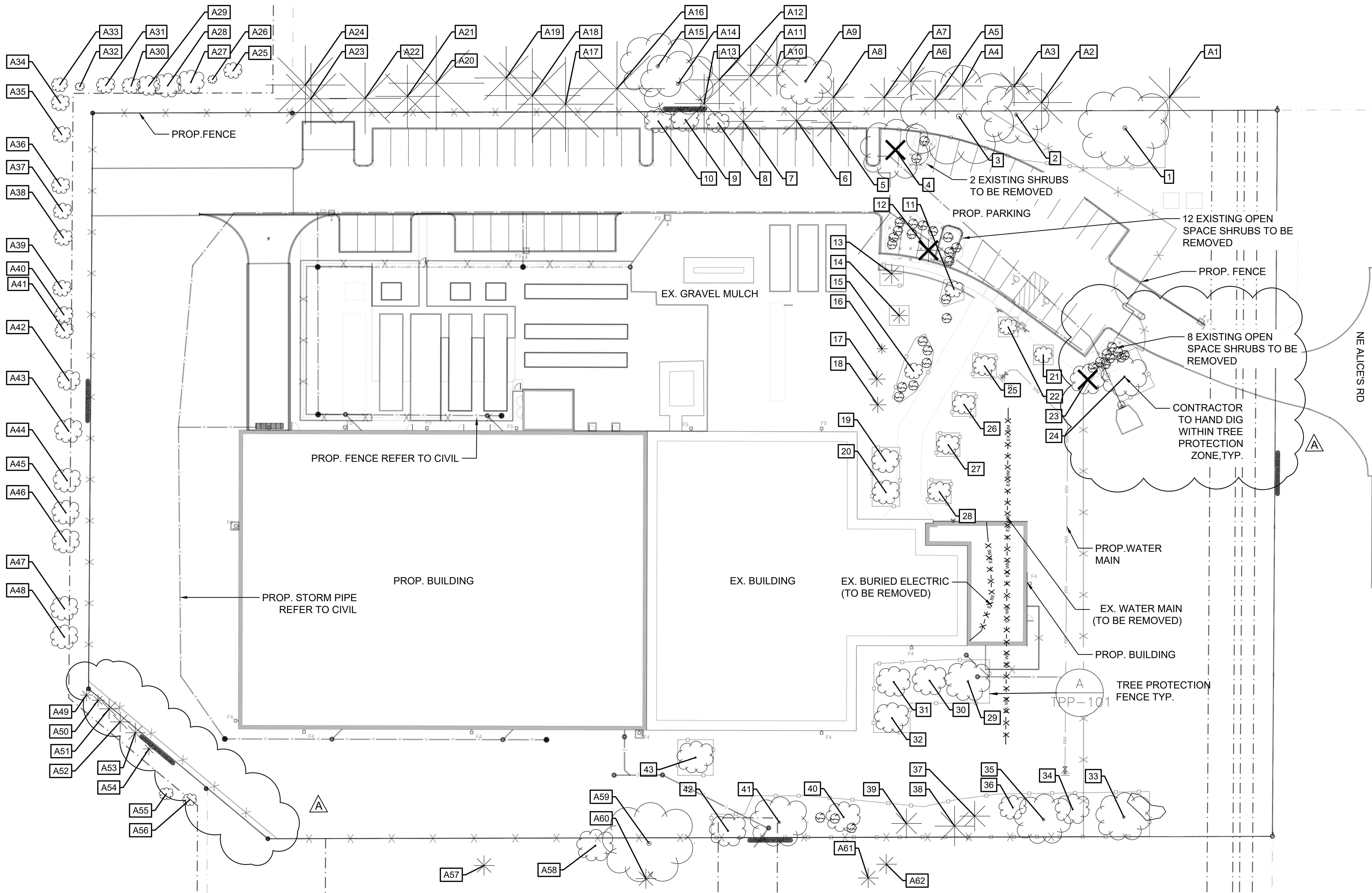
NO.	DATE	REVISION
07/22/25	00	ISSUE
08/26/25	01	SITE PLAN REVIEW
09/12/25	75%	ISSUE
09/23/25	01	SITE PLAN 2ND REVIEW
10/10/25	01	BID ISSUE
10/22/25	01	SITE PLAN 3RD REVIEW

PROJECT NUMBER: RUS-25008152-A0  
PROJECT DATE: 10/22/25  
DRAWN BY: M/M  
CHECKED BY: NSK  
SCALE: AS SHOWN

IOWA ONE CALL  
1-800-292-6969  
www.iowacall.com

DRAWING TITLE: CIVIL DETAILS  
DRAWING NUMBER: C-606

SITE PLAN 3RD REVIEW



A TREE INVENTORY AND PROTECTION PLAN - PERMIT APPLICATION AREA  
SCALE 1" = 20'

- LEGEND**
- EXISTING TREE TO BE REMOVED, TYP.
  - EX. SHRUBS TO BE REMOVED, TYP.
  - EX. TREE DECIDUOUS
  - EX. TREE CONIFEROUS
  - TREE PROTECTION FENCE, TYP.
  - PROPOSED STORM PIPE
  - PROPERTY LINE
  - EASEMENT
  - LOT LINE
  - BUILDING SETBACK
  - PROPOSED FENCE

**etzel**  
ENGINEER & BUILD  
205 West Water Street, Southport PA, 19086  
PH (717) 524-1200 WWW.EtzelEng.com

**exp.**  
U.S. SERVICES INC.  
8000 150  
27777 Fowler Road  
U.S.A.  
T 717.435.5165  
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THESE DRAWINGS  
ARE FOR DESIGN  
PURPOSES AND  
ARE NOT  
INTENDED FOR  
CONSTRUCTION

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Waukee, IA 50263

NO.	DATE	REVISION
	07/22/25	DD ISSUE
	08/12/25	75% ISSUE
A	09/23/25	DD ISSUE FOR 2ND REVIEW

SCALE 1" = 20'

**IOWA ONE CALL**  
1-800-292-6969  
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PROJECT NUMBER: RUS-25008152-A0  
PROJECT DATE: -  
DRAWN BY: DC  
CHECKED BY: AL  
SCALE: AS SHOWN

DRAWING TITLE  
LANDSCAPE  
TREE PROTECTION PLAN

DRAWING NUMBER  
TPP-100

PRELIMINARY PLANS - NOT FOR CONSTRUCTION

ON-SITE

Setback Zone	TREE #	COMMON NAME	DBH	SPREAD (ft)	RETAIN / REMOVE / PRUNE
North Setback	1	DECIDUOUS	24"	40'	RETAIN
North Setback	2	DECIDUOUS	15"	30'	RETAIN
North Setback	3	DECIDUOUS	30"	50'	RETAIN
North Setback	4	DECIDUOUS	12"	30'	REMOVE
North Setback	5	CONIFEROUS	18"	20'	RETAIN
North Setback	6	CONIFEROUS	12"	20'	RETAIN
North Setback	7	CONIFEROUS	18"	20'	RETAIN
North Setback	8	DECIDUOUS	4"	10'	RETAIN
North Setback	9	DECIDUOUS	6"	12'	RETAIN
North Setback	10	DECIDUOUS	6"	12'	RETAIN
Open Space	11	DECIDUOUS	-	-	RETAIN
Open Space	12	CONIFEROUS	10"	12'	REMOVE
Open Space	13	CONIFEROUS	10"	10'	RETAIN
Open Space	14	CONIFEROUS	8"	8'	RETAIN
Open Space	15	DECIDUOUS	4"	8'	RETAIN
Open Space	16	CONIFEROUS	3"	5'	RETAIN
Open Space	17	CONIFEROUS	6"	8'	RETAIN
Open Space	18	CONIFEROUS	6"	8'	RETAIN
Open Space	19	DECIDUOUS	5"	12'	RETAIN
Open Space	20	DECIDUOUS	5"	12'	RETAIN
Open Space	21	DECIDUOUS	3"	8'	RETAIN
Open Space	22	DECIDUOUS	3"	8'	RETAIN
Open Space	23	DECIDUOUS	4"	15'	REMOVE
Open Space	24	DECIDUOUS	6"	20'	RETAIN
Open Space	25	DECIDUOUS	3"	10'	RETAIN
Open Space	26	DECIDUOUS	3"	10'	RETAIN
Open Space	27	DECIDUOUS	3"	10'	RETAIN
Open Space	28	DECIDUOUS	3"	10'	RETAIN
Open Space	29	DECIDUOUS	8"	20'	RETAIN
Open Space	30	DECIDUOUS	6"	15'	RETAIN
Open Space	31	DECIDUOUS	6"	15'	RETAIN
Open Space	32	DECIDUOUS	8"	15'	RETAIN
Open Space	33	DECIDUOUS	12"	24'	RETAIN
Open Space	34	DECIDUOUS	8"	15'	RETAIN
Open Space	35	DECIDUOUS	8"	25'	RETAIN
Open Space	36	DECIDUOUS	4"	12'	RETAIN
Open Space	37	CONIFEROUS	8"	15'	RETAIN
Open Space	38	CONIFEROUS	8"	20'	RETAIN
Open Space	39	CONIFEROUS	10"	15'	RETAIN
Open Space	40	DECIDUOUS	10"	15'	RETAIN
Open Space	41	DECIDUOUS	10"	25'	RETAIN
Open Space	42	DECIDUOUS	8"	16'	RETAIN
Open Space	43	DECIDUOUS	8"	16'	RETAIN

ADJACENT OFF-SITE

TREE #	COMMON NAME	DBH	SPREAD (ft)
A1	CONIFEROUS	20"	30'
A2	CONIFEROUS	15"	30'
A3	CONIFEROUS	12"	20'
A4	CONIFEROUS	12"	20'
A5	CONIFEROUS	12"	20'
A6	CONIFEROUS	12"	20'
A7	CONIFEROUS	18"	20'
A8	CONIFEROUS	18"	20'
A9	DECIDUOUS	12"	24'
A10	CONIFEROUS	12"	30'
A11	CONIFEROUS	12"	30'
A12	CONIFEROUS	12"	30'
A13	CONIFEROUS	12"	30'
A14	DECIDUOUS	16"	32'
A15	DECIDUOUS	16"	32'
A16	CONIFEROUS	24"	48'
A17	CONIFEROUS	24"	48'
A18	CONIFEROUS	24"	48'
A19	CONIFEROUS	18"	32'
A20	CONIFEROUS	24"	48'
A21	CONIFEROUS	18"	32'
A22	CONIFEROUS	18"	36'
A23	CONIFEROUS	18"	36'
A24	CONIFEROUS	20"	40'
A25	DECIDUOUS	3"	8'
A26	DECIDUOUS	2"	4'
A27	DECIDUOUS	6"	12'
A28	DECIDUOUS	6"	12'
A29	DECIDUOUS	3"	10'
A30	DECIDUOUS	3"	8'
A31	DECIDUOUS	3"	8'
A32	DECIDUOUS	2"	4'
A33	DECIDUOUS	3"	7'
A34	DECIDUOUS	2"	8'
A35	DECIDUOUS	2"	8'
A36	DECIDUOUS	2"	8'
A37	DECIDUOUS	2"	8'
A38	DECIDUOUS	2"	8'
A39	DECIDUOUS	2"	8'
A40	DECIDUOUS	2"	8'
A41	DECIDUOUS	2"	8'
A42	DECIDUOUS	3"	10'
A43	DECIDUOUS	4"	12'
A44	DECIDUOUS	4"	12'
A45	DECIDUOUS	4"	12'
A46	DECIDUOUS	4"	12'
A47	DECIDUOUS	2"	12'
A48	DECIDUOUS	2"	12'
A49	CONIFEROUS	3"	6'
A50	CONIFEROUS	3"	6'
A51	CONIFEROUS	5"	10'
A52	CONIFEROUS	5"	10'
A53	CONIFEROUS	5"	10'
A54	CONIFEROUS	3"	6'
A55	DECIDUOUS	3"	6'
A56	DECIDUOUS	3"	6'
A57	CONIFEROUS	5"	10'
A58	DECIDUOUS	8"	16'
A59	DECIDUOUS	20"	40'
A60	CONIFEROUS	4"	10'
A61	CONIFEROUS	4"	10'
A62	CONIFEROUS	4"	10'

GENERAL NOTES:

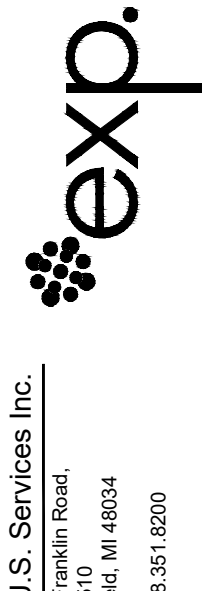
- REFER TO TECHNICAL SPECIFICATION FOR ALL LANDSCAPE DEMOLITION AND TREE PROTECTION WORK. CONTRACTOR TO COORDINATE DEMOLITION AND PROTECTION ACTIVITIES WITH THE OWNER AND OTHER CONTRACTORS TO MINIMIZE DISRUPTION AND CONFLICTS TO DAILY OPERATIONS.
- CONFIRM LOCATIONS OF SHALLOW UTILITY LINES, ACTIVE OR ABANDONED. REFER TO ENGINEERING DRAWINGS.
- LOCATION OF SITE SERVICES SHOWN ON DRAWINGS ARE INDICATIVE ONLY. CONTRACTOR TO VERIFY LOCATION AND PROTECT ALL SITE SERVICES WITH SCOPE OF WORK PRIOR TO COMMENCEMENT OF EXCAVATION.
- TREES AND SHRUBS REMOVAL INCLUDES ALL ROOTBALLS, MULCHES AND DISPOSE OFF SITE.
- CONTRACTOR TO BE RESPONSIBLE AND TO MAKE GOOD FOR ANY DAMAGES INCURRED DURING DEMOLITION / CONSTRUCTION.
- PROVIDE EROSION CONTROL MEASURES WHERE APPLICABLE TO CITY STANDARD.

TREE INVENTORY AND PROTECTION NOTES:

- REFER TO TREE INVENTORY CHART (THIS SHEET) FOR IDENTIFICATION AND DESCRIPTION OF EXISTING TREES.
- TREE INVENTORY CONDUCTED AND PREPARED BY EXP, AUG. 2025.
- CONSTRUCTION EQUIPMENT AND MATERIALS SHALL NOT BE STORED WITHIN THE TREE PROTECTION ZONES. SIGNAGE TO BE PROVIDED AROUND TREE PROTECTION ZONE TO THIS EFFECT.
- CONTRACTOR NOT TO DAMAGE TREES AND ROOT ZONE IN ADJACENT PROPERTY DURING CONSTRUCTION.
- THE PROJECT SUPERINTENDENT SHALL ENSURE ALL CONSTRUCTION WORK ADHERES TO THE APPROVED TREE PROTECTION PLAN AND THAT ALL STAFF WORKING ON SITE ARE AWARE OF THE SITE PLANT INVENTORY AND THE APPROVED TREE PROTECTION PLAN.
- PROVIDE THE FOLLOWING CARE MEASURES:
  - MULCH TREE PROTECTION ZONES, AND APPLY WATER AND AERATE SOIL AS REQUIRED FOR DURATION OF CONSTRUCTION.
  - PRUNE BRANCHES FOR BUILDING AND EQUIPMENT CLEARANCES. THE USE OF A CITY APPROVED CONTRACTOR IS MANDATORY FOR THIS WORK WHEN CONDUCTED ON PUBLICLY OWNED TREES.
  - WATER, AERATE, TOP-DRESS AND SEED TREE PROTECTION ZONE AS REQUIRED POST-CONSTRUCTION.
  - WHERE TO EXCAVATION OR DEMOLITION IS COMPLETED WITHIN THE TREE PROTECTION ZONE:
    - WORK BY HAND DIGGING, HYDROVAC OR OTHER APPROVED METHODS TO MINIMIZE DISTURBANCE AND POTENTIAL DAMAGE TO ROOTS
    - HEAVY EQUIPMENT EXCAVATION AND LOADING ARE NOT PERMITTED WITHIN IMMEDIATELY FOLLOWING COMPLETION OF DEMOLITION WORK WITHIN TREE PROTECTION ZONE.
    - REINSTALL TREE PROTECTION FENCE FOLLOWING DISTURBANCE AND MAINTAIN FOR THE DURATION OF THE CONSTRUCTION

NOTES:

- TREE CONDITION IS DETERMINED BY THE LANDSCAPE ARCHITECT, FROM WORST TO BEST AS POOR, FAIR, OR GOOD.
- DBH, OR DIAMETER AT BREAST HEIGHT IS THE DIAMETER OF THE MAIN TRUNK OF THE TREE MEASURED AT 4.5' FROM FINISH GRADE.
- TREES NOTED TO BE PRUNED: PRUNING WILL BE DETERMINED ON SITE WITH URBAN FORESTRY REPRESENTATIVE TO ALLOW FOR CLEARANCES ALONG NEW REGIONAL PATHWAY



SEAL

THESE DRAWINGS ARE FOR DESIGN PURPOSES AND ARE NOT INTENDED FOR CONSTRUCTION

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US Signal  
390 NE Alice's Road  
Waukee, IA 50263

NO.	DATE	REVISION
	07/22/25	DD ISSUE
	09/12/25	75% ISSUE
A	09/23/25	DD ISSUE FOR 2ND REVIEW

PROJECT NUMBER:	RUS-25008152-A0
PROJECT DATE:	-
DRAWN BY:	DC
CHECKED BY:	AL
SCALE:	AS SHOWN

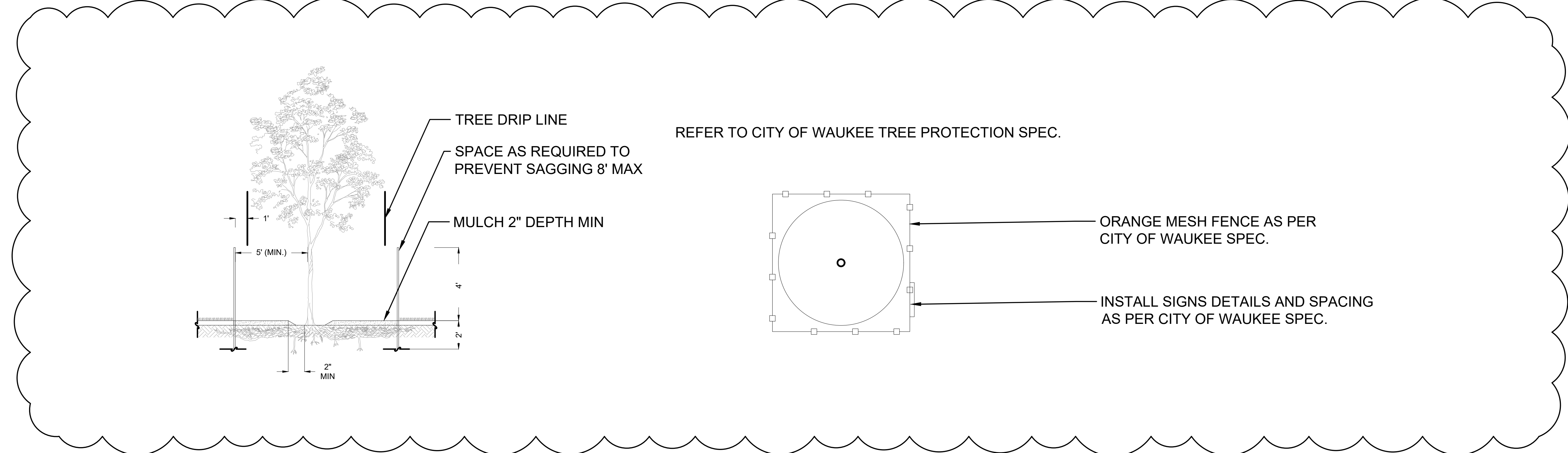
DRAWING TITLE  
LANDSCAPE  
TPP DETAILS & SCHEDULE

DRAWING NUMBER  
TPP-101

PRELIMINARY PLANS - NOT FOR CONSTRUCTION

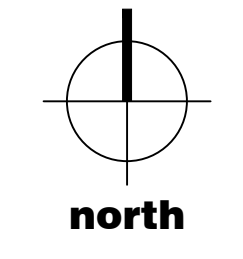
B TREE INVENTORY CHART

SCALE NTS



A TYP. TREE PROTECTION FENCE

SCALE NTS



SEAL

THESE DRAWINGS ARE FOR DESIGN PURPOSES AND ARE NOT INTENDED FOR CONSTRUCTION

**DES MOINES DATA CENTER**

US Signal  
390 NE Alice's Road  
Waukee, IA 50263

NO.	DATE	REVISION
	07/22/25	DO ISSUE
	09/12/25	75% ISSUE
A	09/23/25	DO ISSUE FOR 2ND REV

SCALE 1" = 20'

**IOWA ONE CALL**  
1-800-292-8999

PROJECT NUMBER: #####

PROJECT DATE: -

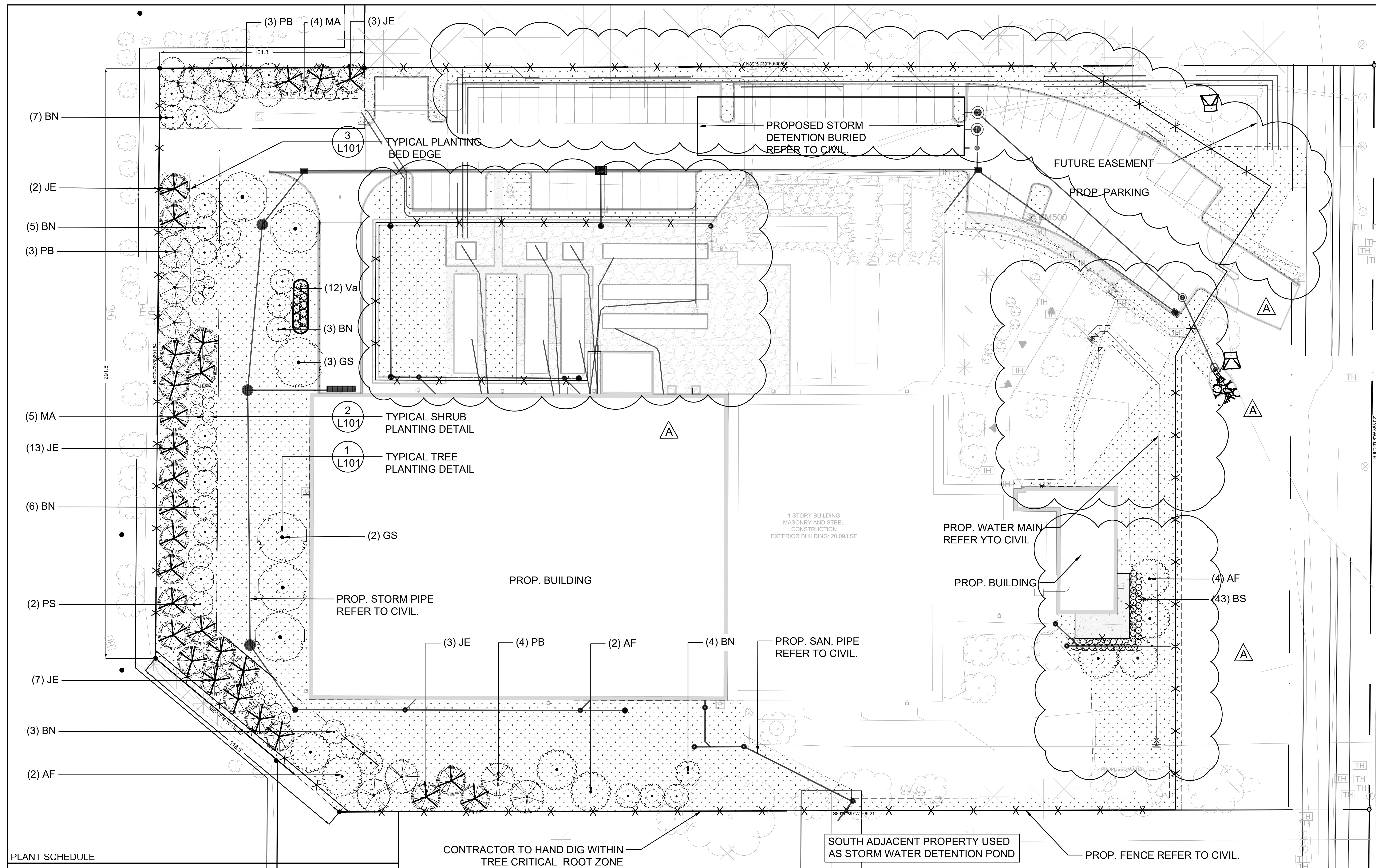
DRAWN BY: DC

CHECKED BY: AL

SCALE: AS SHOWN

DRAWING TITLE  
**LANDSCAPE LANDSCAPE PLAN**

DRAWING NUMBER  
**L-100**

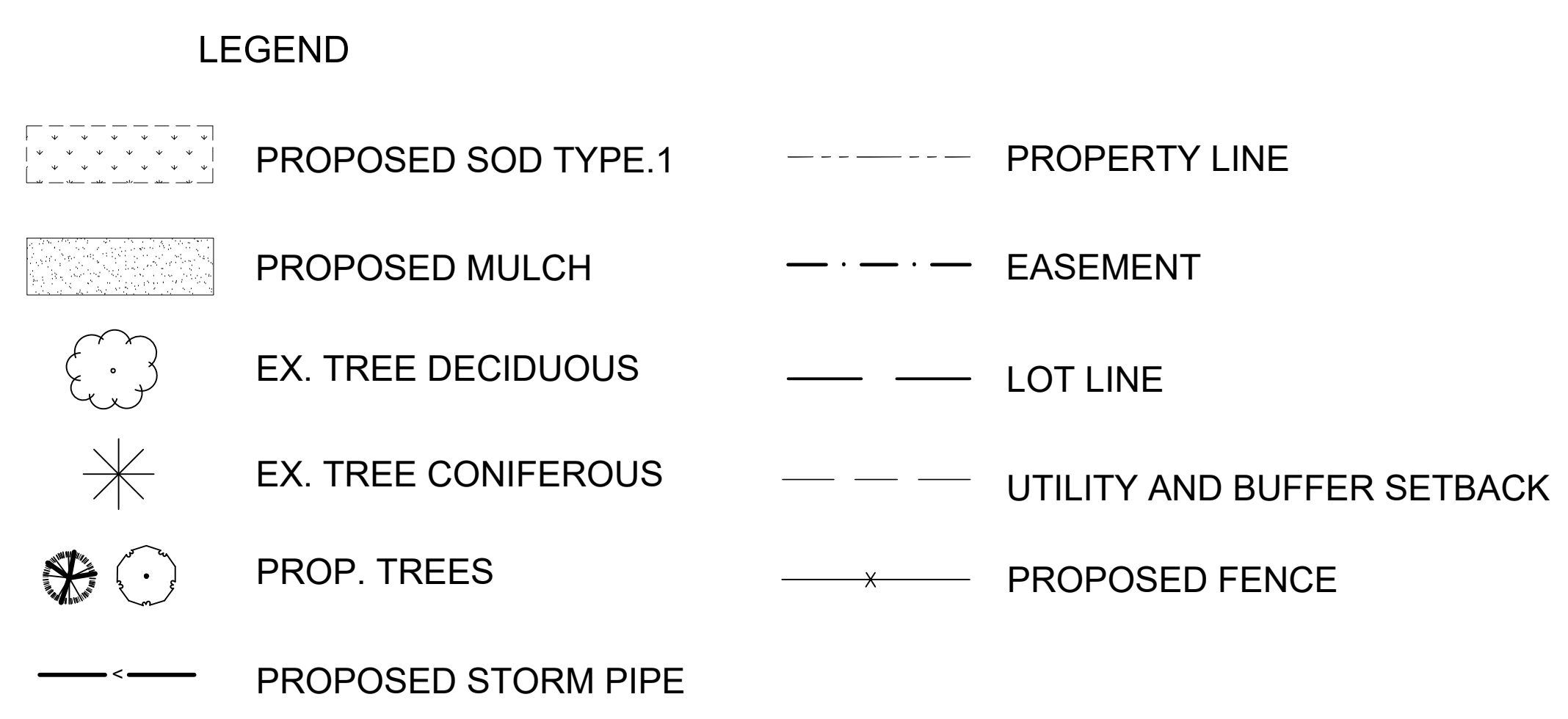


- ### SODDING NOTES
- SODDED AREAS AS SHOWN ON THE PLANTING PLAN ARE TO BE APPROVED BY LANDSCAPE ARCHITECT WITH STRONG FIBROUS ROOT SYSTEM, THICK AND HEAVY GROWTH CONFORMING TO REQUIREMENTS OF IOWA DOT SECTION 0010 AND OF THE FOLLOWING MIX OR APPROVED EQUAL: TYPE 1 PERMANENT LAWN MIXTURE
  - INSTALL TURF AREAS TO ENSURE POSITIVE DRAINAGE OUT FROM THE BUILDING. SOO TO BE FLUSH WITH CURBS AND PAVED AREAS
  - LOOSEN SOIL SURFACE PRIOR TO SODDING. ELIMINATE BUMPS AND DIVOTS. ROLL LIGHTLY WHEREVER TOPSOIL IS EXCESSIVELY LOOSE
  - PRIOR TO SODDING, OBTAIN APPROVAL FROM THE OWNERS REPRESENTATIVE THAT FINISHED GRADE AND DEPTH AND COMPACTION RATES OF TOPSOIL ARE SATISFACTORY
  - DELIVER SOO TO SITE WITHIN 24 HOURS OF BEING LIFTED AND LAY WITHIN 36 HOURS OF BEING LIFTED. DURING DRY WEATHER PROTECT SOO FROM DRYING. AND WATER SOO AS NECESSARY TO ENSURE ITS VITALITY AND PREVENT THE LOSS OF SOIL IN HANDLING. DRY SOO WILL BE REJECTED
  - LAY SOO DURING GROWING SEASON ON A MINIMUM 6" TOPSOIL BASE. LAY SOO IN ROWS. PERPENDICULAR TO SLOPE AND WITH JOINTS STAGGERED. BUTT SECTIONS CLOSELY WITHOUT OVERLAPPING OR LEAVING GAPS BETWEEN SECTIONS. CUT OUT IRREGULAR OR THIN SECTIONS WITH SHARP IMPLEMENTS
  - WATER SOO IMMEDIATELY AFTER LAYING TO OBTAIN MOISTURE PENETRATION INTO TOP 6" OF TOPSOIL. MAINTAIN SODDED AREAS FROM START OF INSTALLATION UNTIL COMPLETION AND FINAL ACCEPTANCE (CFA) OF WORK

- ### PLANTING NOTES
- ANY EXISTING TREES, UNLESS NOTED FOR REMOVAL, ARE TO BE PROTECTED FROM CONSTRUCTION DAMAGE WITH APPROVED TREE PROTECTION FENCING. DO NOT ALTER GRADES OR COMPACT SOIL AROUND THE BASE OF AN EXISTING TREE. DO NOT DISTURB OR EXPOSE ROOTS OF ANY EXISTING TREE
  - REFER TO SHEET T1000 TREE PROTECTION PLAN. PLANT MATERIALS SPECIFIED FOR THIS PROJECT WILL CONFORM TO THE AMERICAN STANDARD FOR NURSERY STOCK AND 261 FOR SIZE, VARIETY AND CONDITION AS INDICATED ON THE PLANT LIST SHOWN ON THESE DRAWINGS. ANY PLANT MATERIALS WHICH DO NOT CONFORM (IN THE OPINION OF THE OWNERS REPRESENTATIVE) WILL BE PROMPTLY REMOVED FROM THE SITE AND REPLACED BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE PROJECT
  - PLANTING MEDIA TO BE USED FOR THE PROJECT SHALL BE FERTILE, WELL DRAINED, OF UNIFORM QUALITY, FREE OF STONES OVER 1" IN SIZE, CHEMICALS, PLASTER, CONCRETE AND OTHER DELETERIOUS MATERIAL
  - PLANT MATERIALS COLLECTED FROM WILD SOURCES WILL NOT BE ACCEPTED. THE OWNERS REPRESENTATIVE RESERVES THE RIGHT TO REQUIRE THAT SUPPLIER INVOICES BE SUBMITTED FOR INSPECTION AND APPROVAL PRIOR TO ACCEPTANCE
  - PLANTING MEDIA DEPTH TO MEET THE MINIMUM SOIL DEPTHS FOR ALL PLANT MATERIAL (TREE, SHRUBS, SEEDING, AND SODDING) AS PER THE LANDSCAPE ORDINANCES
  - THE OWNERS REPRESENTATIVE IS TO BE CONTACTED FOR INSPECTION AND WRITTEN APPROVAL PRIOR TO ANY PLANT MATERIAL INSTALLATION. ALL PLANT LOCATIONS TO BE STAKED AND CLEARLY LABELED FOR APPROVAL PRIOR TO PLANTING. THE OWNERS REPRESENTATIVE RESERVES THE RIGHT TO REJECT ANY PLANT MATERIALS REPRESENTATIVE RESERVES THE RIGHT TO REUSE ANY PLANT DISPLAYING POOR GROWTH HABITS, FLUOR OR DISEASE. ANY PLANT MATERIAL THAT IS REJECTED BY THE OWNERS REPRESENTATIVE WILL BE PROMPTLY REMOVED FROM THE SITE AND REPLACED WITH MATERIAL OF ACCEPTABLE QUALITY AT NO ADDITIONAL COST TO THE PROJECT
  - REMOVE DEAD OR DAMAGED BRANCHES ON SHRUBS. ALL PRUNING SHALL BE PERFORMED IN ACCORDANCE WITH STANDARD HORTICULTURAL PRACTICES AND APPROPRIATE TIMING FOR EACH SPECIES
  - PLANTS ARE NOT TO BE INSTALLED OR TRANSPLANTED DURING EXTREME HEAT, DROUGHT OR OTHER UNSUITABLE CONDITIONS. THOROUGHLY WATER ALL PLANT MATERIALS IMMEDIATELY AFTER INSTALLATION. IF THE CONTRACTOR IS UNSURE OF CONDITIONS THEY SHALL CONTACT THE OWNERS REPRESENTATIVE FOR DIRECTION
  - ALL PLANTS ARE TO BE PLANTED IN ACCORDANCE WITH THE CITY OF DES MOINES PLANTING DETAILS. CONTRACTOR TO PROVIDE 3" DEPTH OF WOOD CHIPS MULCH IN ALL PLANTING BED AREAS. MULCH SHALL BE INSTALLED NO MORE THAN 4" DEPTH AND MAINTAINED UNTIL CFA. MULCH SHALL BE PULLED AWAY FROM TREE TRUNKS AND PLANT MATERIALS AS PER STANDARD DETAILS
  - LANDSCAPE BED EDGES ARE SHARP. SPADE CUT EDGES UNLESS OTHERWISE SPECIFIED
  - PLANT WARRANTY TO BE MAINTAINED UNTIL COMPLETION AND FINAL ACCEPTANCE (CFA) OF WORK. - MINIMUM 1 YEARS

### PLANT SCHEDULE

SYMBOL	CODE	BOTANICAL NAME	COMMON NAME	SIZE	CONDITION	CANOPY	QTY
<b>CONIFEROUS TREES</b>							
	JE	Juniperus virginiana	Eastern Redcedar	6.0 ft. ht.	B&B	15'	29
	PB	Picea glauca densata	Black Hills Spruce	8.0 ft. ht.	B&B	18'	10
<b>DECIDUOUS TREES</b>							
	AF	Acer rubrum 'Franksred'	Red Sunset® Maple	8.0 ft. ht.	B&B	20'	8
	BN	Betula nigra	River Birch Multi-Trunk	6.0 ft. ht.	B&B	12'	32
	GS	Gleditsia triacanthos inermis 'Skyline'	Skyline Honey Locust	8.0 ft. ht.	B&B	25'	7
<b>ORNAMENTAL TREES</b>							
	MA	Malus x 'Adirondack'	Adirondack Crabapple	6.0 ft. ht.	B&B	6'	19
	PS	Prunus serrulata	Japanese Flowering Cherry	6.0 ft. ht.	B&B	13'	2
<b>SYMBOL</b>	<b>CODE</b>	<b>BOTANICAL NAME</b>	<b>COMMON NAME</b>	<b>SIZE</b>	<b>QTY</b>		
<b>SHRUBS</b>							
	Bs	Buxus sempervirens	Common Boxwood	#3 Cont.		43	
	Va	Viburnum trilobum	American Cranberrybush	#3 Cont.		12	



### SITE DATA

ADDRESS: 390 NE ALICE'S RD, WAUKEE, IA 50263  
 FOLD NUMBER: 122742002  
 OWNER: US SIGNAL  
 ZONING: OFFICE PARK COMMERCIAL DISTRICT (C-4)  
 PROPOSED USE: COMBINATION OF OFFICE & WAREHOUSE  
 FUTURE LAND USE: BUSINESS PARK  
 ADJACENT ZONING: (N) C-1; (NW) R-4; (W) R-4; (E) CITY OF CLIVE RESIDENTIAL (S) R-3  
 SITE AREA: 217,800 SF (5.00 AC)  
 PROJECT AREA: 217,800 SF (5.00 AC)

### LANDSCAPE REQUIREMENTS

OPEN SPACE (REQ.) / PROP.: 54,450 SF (25%) / 86,600 SF (40%)  
 - 1 TREE AND 1 SHRUB PER 1000 SQ OF REQUIRED OPEN SPACE  
 - 30' WEST SETBACK 2 OVERSTORY, 3 EVERGREEN, 2 ORNAMENTAL PER SOLF  
 - A MINIMUM OF 50 % OF ALL REQUIRED TREES SHALL BE OVERSTORY  
 - A MINIMUM OF 25 % OF ALL REQUIRED TREES SHALL BE EVERGREEN (CONIFEROUS)  
 - MAXIMUM 50 % OF REQUIRED TREE MAY BE WAIVED IF EXISTING TREES ARE RETAINED DURING DEVELOPMENT  
 - THE CITY OFFICIAL MAY REDUCE THE REQUIRED NUMBER IF THE ADJUTING PROPERTY HAS PROVIDED A PLAN OR THE ENTIRE REQUIRED NUMBER

### QUANTITY PROVIDED (EXISTING)

LOCATION	OVERSTORY	CONIFEROUS	ORNAMENTAL	SHRUBS
30' NW SETBACK	4	6	4	-
30' WEST SETBACK	12	16	12	-
30' SW SETBACK	5	7	5	-
OPEN SPACE	41	14	-	55

### QUANTITY PROVIDED (EXISTING)

LOCATION	OVERSTORY	CONIFEROUS	ORNAMENTAL	SHRUBS
30' NW SETBACK	4	6	4	-
30' WEST SETBACK	12	16	12	-
30' SW SETBACK	5	7	5	-
OPEN SPACE	41(2)	14(2)	N/A	55

- ### GENERAL NOTES
- CONTRACTOR SHALL MAKE ARRANGEMENTS FOR THE PROPER BRACING, SHORING AND OTHER REQUIRED PROTECTION OF ALL ROADWAYS AND EXCAVATIONS BEFORE CONSTRUCTION BEGINS
  - IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY THE EXISTING CONDITION, INCLUDING BUT NOT LIMITED TO THE PROPERTY BOUNDARY, THE BENCHMARK, EXISTING BUILDING, PAVEMENT AND GROUND ELEVATIONS AND UTILITY HORIZONTAL AND VERTICAL LOCATIONS BEFORE THE START OF CONSTRUCTION
  - CONTRACTOR SHALL REPAIR AND REPLANT ANY EXISTING GRASS OR SOIL WITH SOO WHERE IS DISTURBED BY CONSTRUCTION ACTIVITY WITHIN SERVICE RIGHT OF WAY
  - LOCATIONS OF ALL UTILITY LINES TO BE FIELD VERIFIED WITHIN AREA OF WORK. CONTRACTOR TO NOTIFY OWNER/ENGINEER OF ANY DISCREPANCIES
  - ALL CHANGES TO LANDSCAPING SHALL BE APPROVED IN WRITING BY THE CITY OF WALKER COMMUNITY DEVELOPMENT DEPARTMENT
  - CONTRACTOR SHALL OBTAIN ALL NECESSARY JURISDICTIONAL PERMITS AND APPROVALS PRIOR TO CONSTRUCTION BEGINNING
  - THE TOPOGRAPHIC SURVEY WAS PROVIDED BY MCCLURE, JOB NO. 202501453-009, DATED 06/18/2025. THESE IMPROVEMENT PLANS DO NOT WARRANT THE ACCURACY OF THE PROVIDED SURVEY
  - VERTICAL DATUM ELEVATIONS ARE BASED ON THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD83) OR NATIONAL GEODEIC VERTICAL DATUM OF 1929 (NGVD29)

- ### MAINTENANCE NOTES
- CONTRACTOR IS RESPONSIBLE FOR CARE AND MAINTENANCE OF SITE FROM CONSTRUCTION THROUGH TO COMPLETION AND FINAL ACCEPTANCE (CFA) OF WORK. 1-YEAR MAINTENANCE/ WARRANTY PERIOD
  - WATER ALL PLANT MATERIAL AS REQUIRED FOR DURATION OF MAINTENANCE PERIOD. UNTIL CFA TO ENSURE LUSH, HEALTHY CONDITION. WATERING FOR ESTABLISHMENT AND MAINTENANCE IS INCLUDED IN THE SCOPE OF WORK. EVEN BEFORE ISSUANCE OF CERTIFICATE OF COMPLETION AND FINAL ACCEPTANCE
  - MOW ALL TURF AREAS AS REQUIRED. ENSURE THAT TURF IS NOT SCALPED AND CUT BELOW HEIGHT OF 4" ABOVE FINISHED GRADE
  - ALL DEAD SHRUBS AND TURF IN POOR CONDITION AS NOTED BY THE LANDSCAPE ARCHITECT SHOULD BE REMOVED AND REPLACED IMMEDIATELY
  - PESTS AND DISEASES SHALL BE REMEDIATED IMMEDIATELY TO CONTROL SPREAD. PEST AND DISEASE CONTROL WILL BE APPROVED BY THE LANDSCAPE ARCHITECT PRIOR TO EXECUTION
  - ENSURE THE NUMBER OF NUISANCE WEEDS (ANNUALS) ARE LESS THAN 2% OF TOTAL PLANTS IN ESTABLISHED TURF AREAS THROUGHOUT THE MAINTENANCE PERIOD
  - CONTRACTOR TO REMOVE AND NOXIOUS PROHIBITED WEEDS AS SOON AS WEEDS ARE DISCOVERED AND PRIOR TO RELEASE OF SEEDS
  - CONTRACTOR TO TOP-UP MULCH AS REQUIRED TO MAINTAIN MULCH DEPTHS UNTIL CFA

PRELIMINARY PLANS - NOT FOR CONSTRUCTION



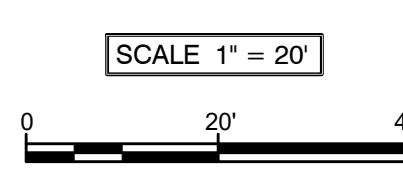
SEAL

THESE DRAWINGS ARE FOR DESIGN PURPOSES AND ARE NOT INTENDED FOR CONSTRUCTION

DES MOINES DATA CENTER

US Signal  
390 NE Alice's Road  
Waukee, IA 50263

NO.	DATE	REVISION
	07/22/25	DO ISSUE
	08/12/25	75% ISSUE
A	09/23/25	DO ISSUE FOR 2ND REVIEW



PROJECT NUMBER: #####

PROJECT DATE: -

DRAWN BY: DC

CHECKED BY: AL

SCALE: AS SHOWN

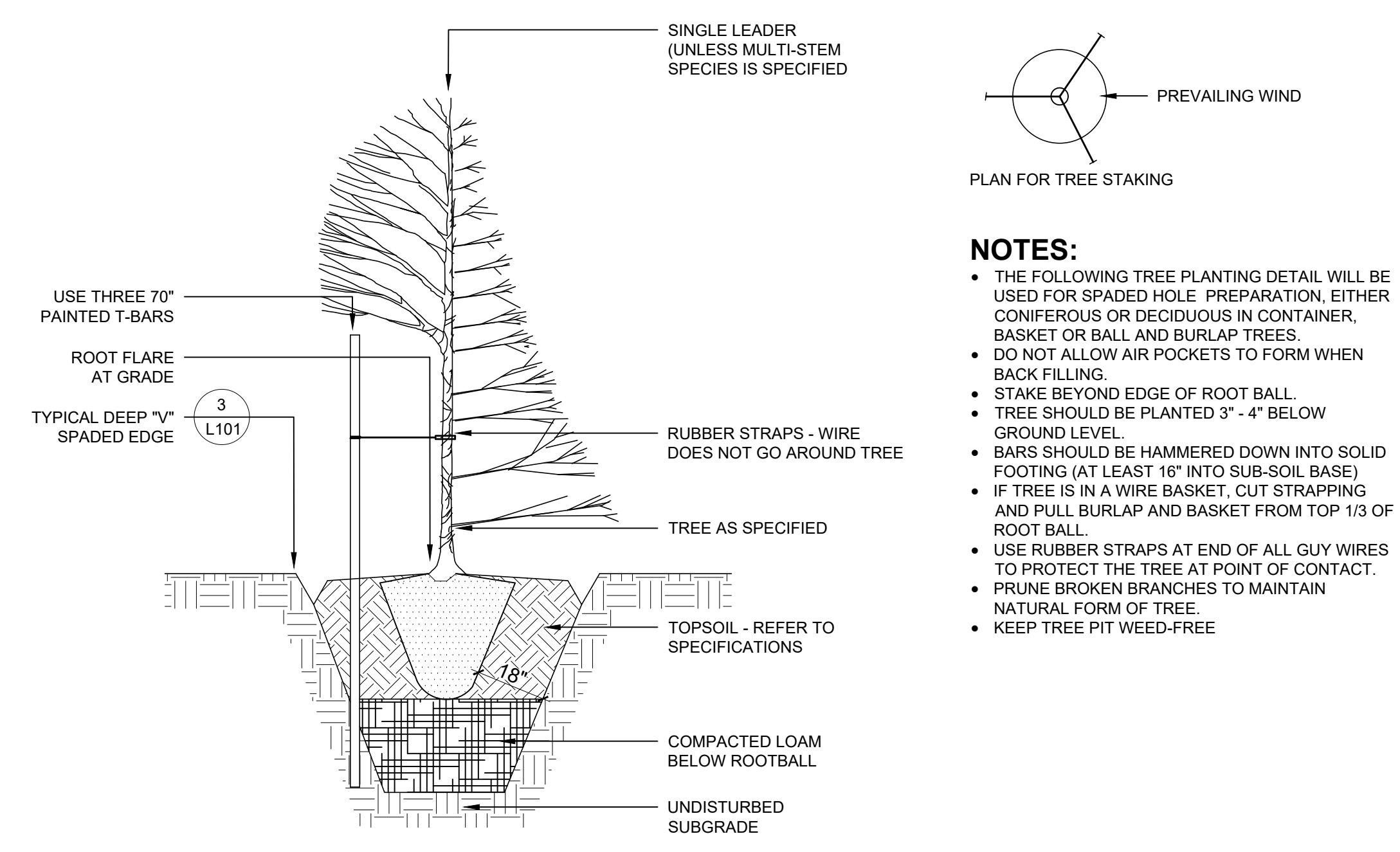
DRAWING TITLE

LANDSCAPE

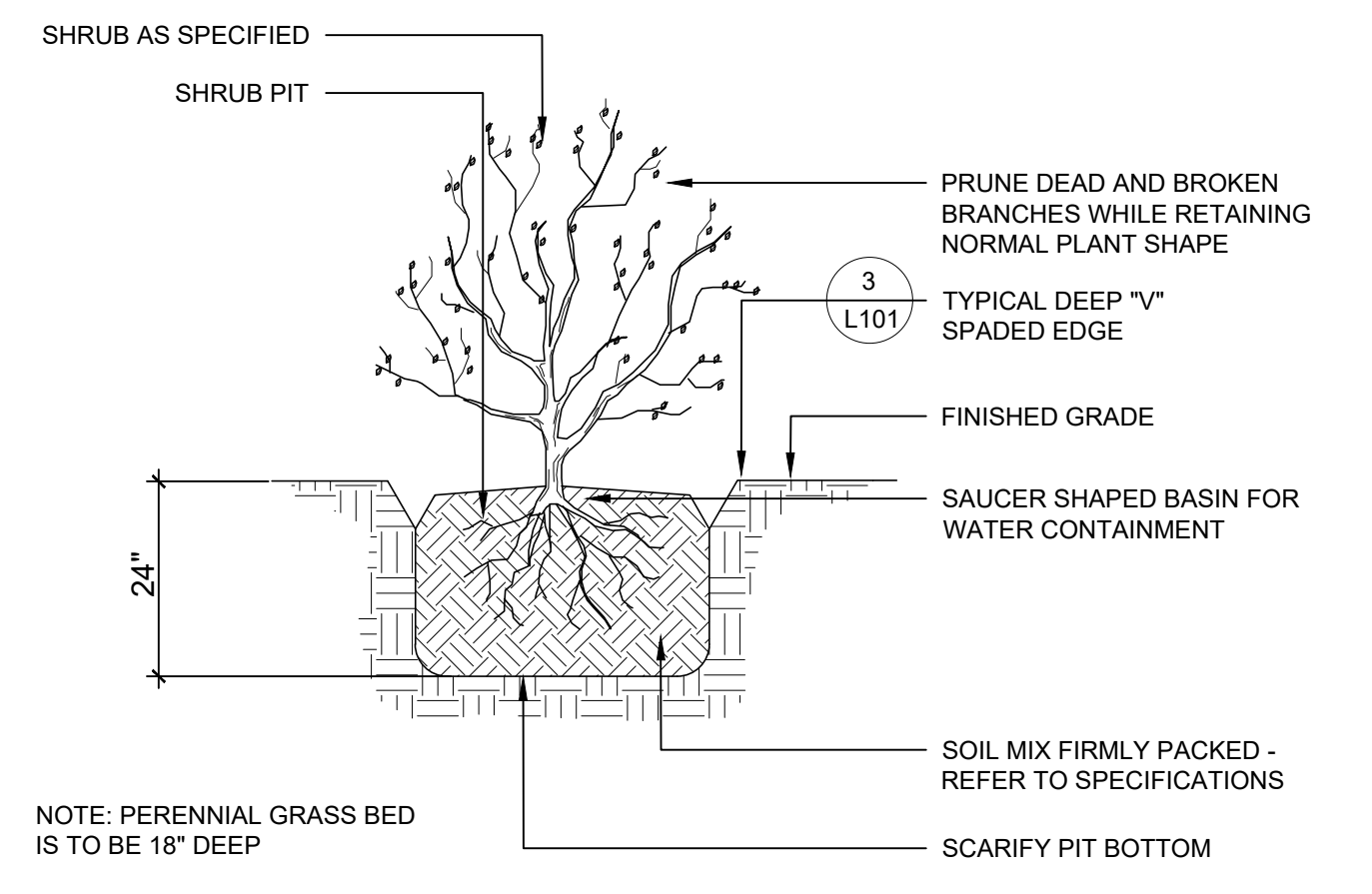
LANDSCAPE DETAILS

DRAWING NUMBER

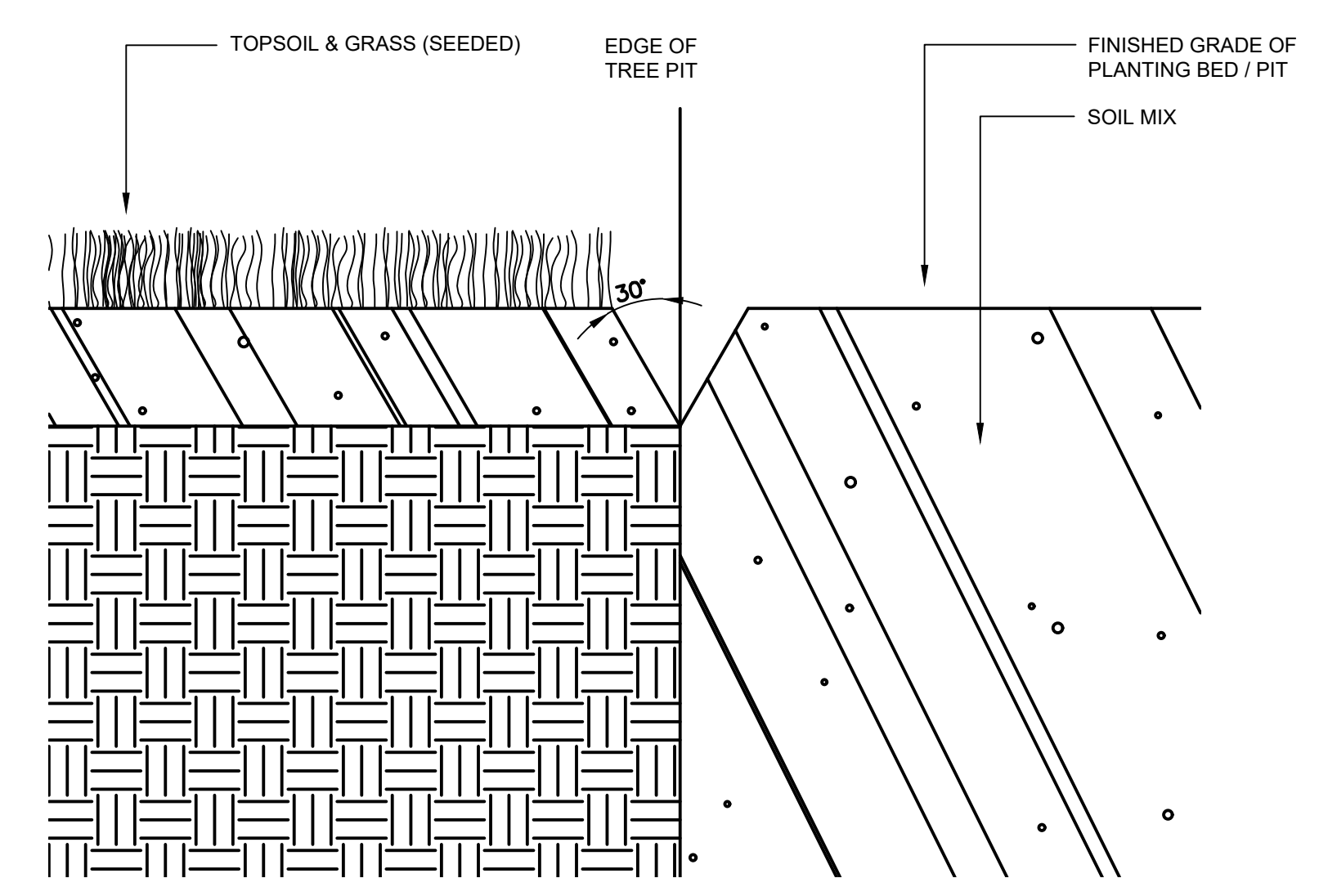
L-101



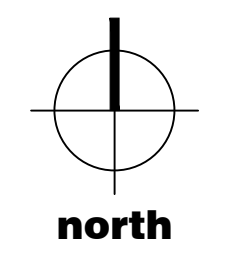
**1 TYPICAL TREE PLANTING DETAIL**  
NOT TO SCALE

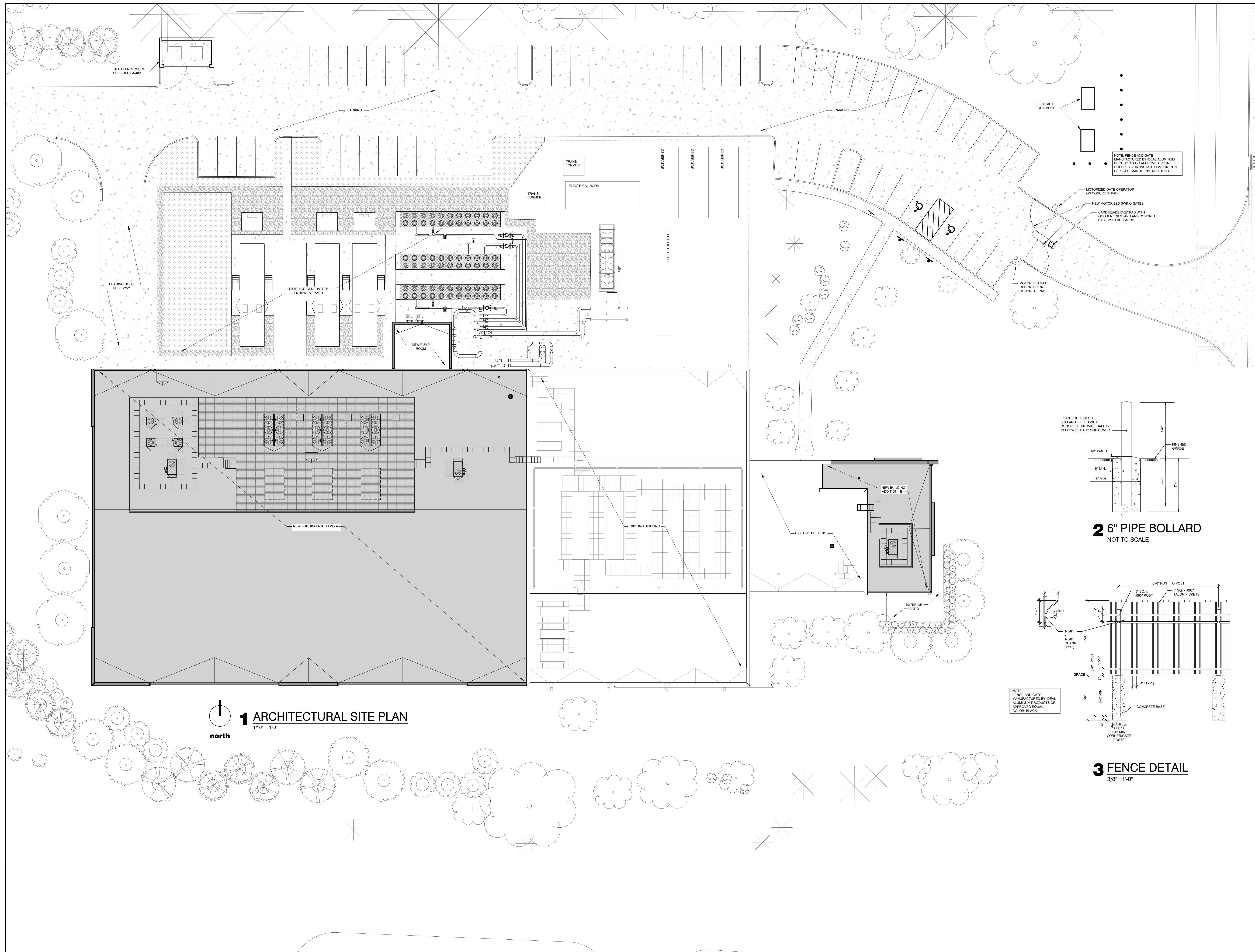


**2 TYPICAL SHRUB PLANTING DETAIL**  
NOT TO SCALE



**3 TYPICAL DEEP 'V' SPADED EDGE**  
SCALE: 1-1/2" = 1'-0"





**1 ARCHITECTURAL SITE PLAN**  
1/16" = 1'-0"

north

**us signal**

**etzel ENGINEER & BUILD**  
205 West Main Street, Southport PA, 19086  
PH (717) 824-1290 WWW.EtzelEng.com

**exp.**  
exp U.S. SERVICES INC.  
27777 Harbor Road  
Suite 100  
U.S.A.  
TX 77428-3180  
www.exp.com

SEAL

**DES MOINES DATA CENTER**

**US Signal**  
390 NE Alice's Road  
Waukee, IA 50263

NO.	DATE	REVISION
	07/22/25	DD ISSUE
	08/12/25	75% ISSUE
	10/19/25	BID/PERMIT ISSUE

PROJECT NUMBER: RUS-250008152-AD

PROJECT DATE:

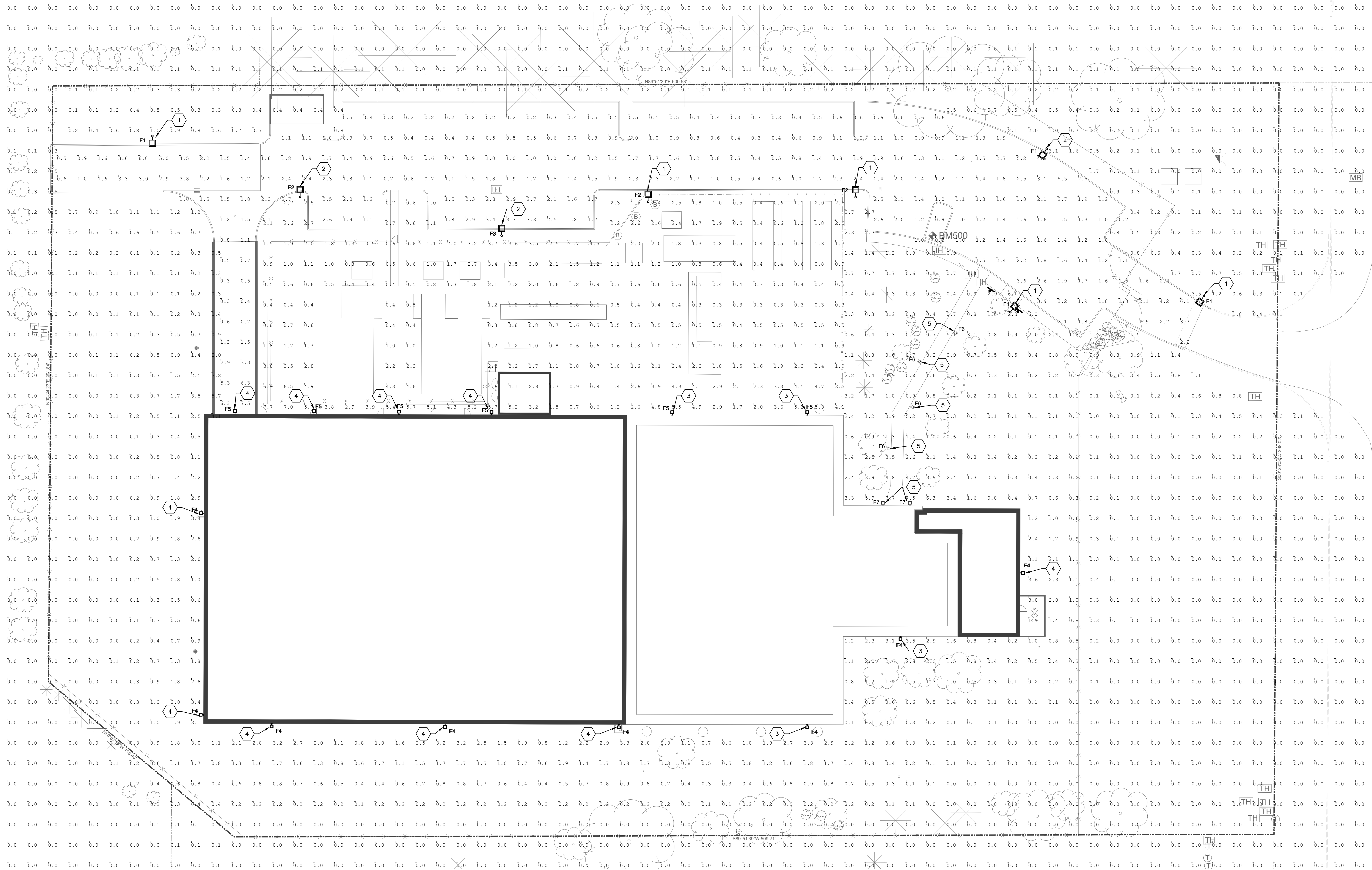
DRAWN BY: MV

CHECKED BY: AA

SCALE: AS SHOWN

DRAWING TITLE  
**ARCHITECTURAL SITE PLAN**

DRAWING NUMBER  
**A-001**



# ELECTRICAL SITE LIGHTING PLAN

1" = 20'-0"

Label	Qty	System	Arrangement	Manufacturer	Description	Lumens	Watts	LLF	Mag Hgt
F1	4	□	Single	Rason	New Light Pole 15000-15000-4070	11191	119.27	0.850	30
F2	3	□	Single	Rason	New Light Pole 15000-15000-4070	11191	119.27	0.850	30
F3	1	□	Single	Rason	New Light Pole 15000-15000-4070	11191	119.27	0.850	30
F4	4	□	Single	QARSDCO	New Wall Pack (QAWA14R30) T4M	6000	40.00	0.850	15
F5	8	□	Single	QARSDCO	New Wall Pack (QAWA14R30) T4M	6000	40.00	0.850	15
F6	4	□	Single	Existing	Existing Street Light	8000	40.00	0.750	15
F7	2	□	Single	Existing	Existing Street Light	1000	15	0.750	4

Label	CalcType	Units	Avg	Max	Min	ArgMin	MaxMin
Building Footprint	Footcandle	Fc	0.36	7.7	0.0	N/A	N/A
Planting	Footcandle	Fc	1.59	7.5	0.2	7.56	20.25
Yard	Footcandle	Fc	1.72	7.7	0.3	5.73	20.07

### GENERAL NOTES:

- A. PROVIDE ADEQUATE DUST PROTECTION IN AREA OF WORK ON ALL ARCHITECTURAL, ELECTRICAL, MECHANICAL, PLUMBING & FIRE ALARM EQUIPMENT AND FIXTURES THAT ARE TO REMAIN IN PLACE DURING CONSTRUCTION.
- B. CONTRACTOR TO PROTECT INSIDE OF BUILDING FROM OUTSIDE ELEMENTS DURING THE DURATION OF CONSTRUCTION.
- C. RESTORE, PATCH, REPAIR, INFILL AND REFINISH ALL AREAS AFFECTED BY DEMOLITION AND NEW WORK.
- D. DISPOSE OF ALL DEMOLISHED MATERIALS OFF SITE.
- E. FIRESTOP RATED WALL PENETRATIONS. SEE DETAILS ON A-500.
- F. PROVIDE WALL AND OPENING PROTECTION.
- G. SCAN EXTERIOR WALL AND SLABS FOR REBAR PRIOR TO ANY DEMOLITION/NEW WORK.

### KEY NOTES - NEW WORK:

1. PROVIDE NEW LIGHT POLE AND FIXTURE AT EXISTING LOCATION. RECONNECT EXISTING LIGHTING CIRCUIT TO NEW FIXTURE.
2. PROVIDE NEW LIGHT POLE AND FIXTURE AT NEW LOCATION. EXTEND EXISTING LIGHT POLE CIRCUIT TO NEW LOCATION.
3. PROVIDE NEW WALL PACK LIGHTING FIXTURE AT EXISTING LOCATION. RECONNECT EXISTING LIGHTING CIRCUIT TO NEW FIXTURE.
4. PROVIDE NEW WALL PACK LIGHTING FIXTURE AT NEW LOCATION. EXTEND EXISTING LIGHTING CIRCUIT TO NEW LOCATION.
5. EXISTING LIGHTING FIXTURE TO REMAIN.



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U.S. SERVICES INC.

300 West Waukegan Street, Waukegan, IL 60085  
PH (708) 841-1200 WWW.Exp.com

SEAL

**DES MOINES DATA CENTER**

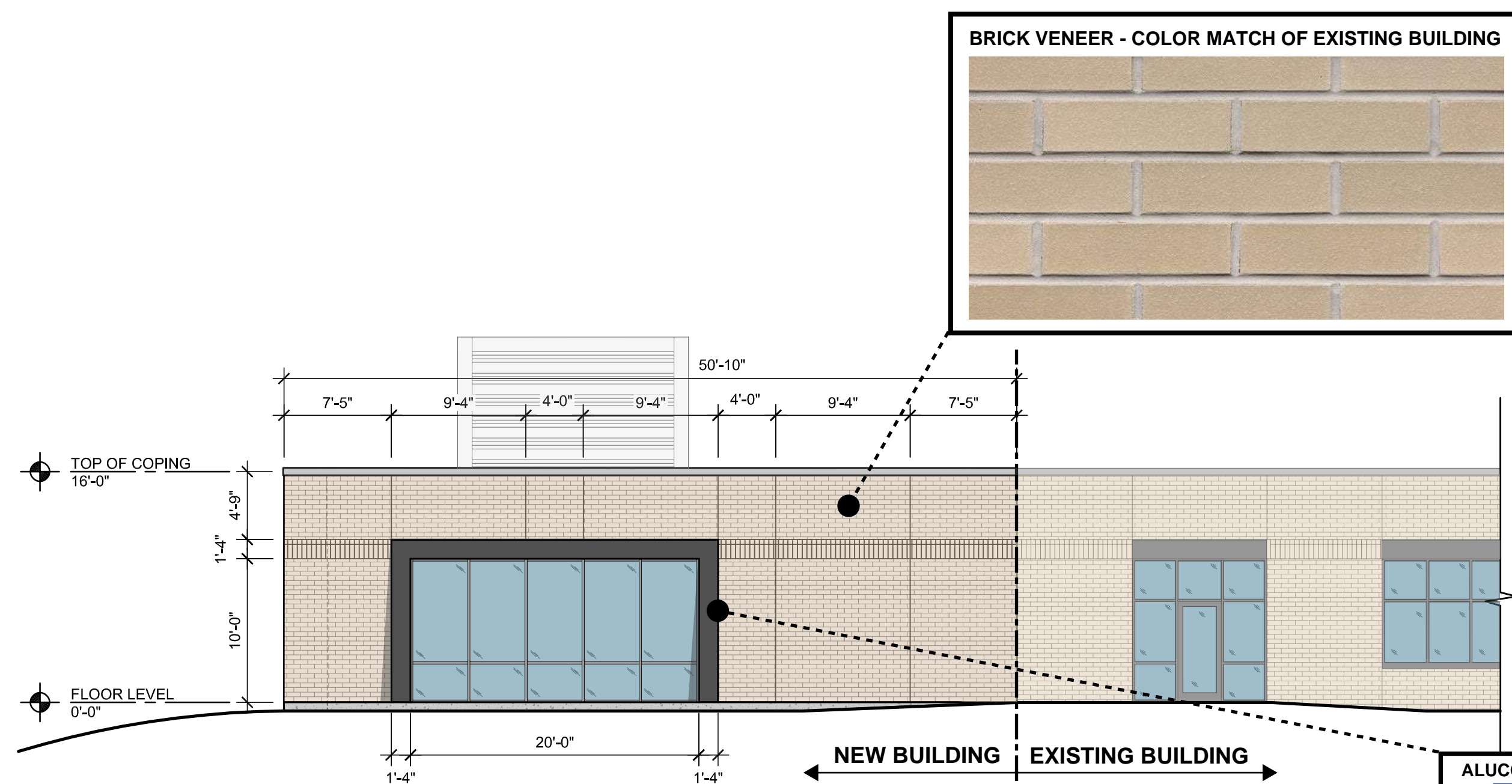
US Signal  
390 NE Alice's Road  
Waukee, IA 50263

NO.	DATE	REVISION
08/26/25		SITE PLAN REVIEW

PROJECT NUMBER:	RUS-25008152-A0
PROJECT DATE:	
DRAWN BY:	AJC
CHECKED BY:	MS
SCALE:	AS SHOWN

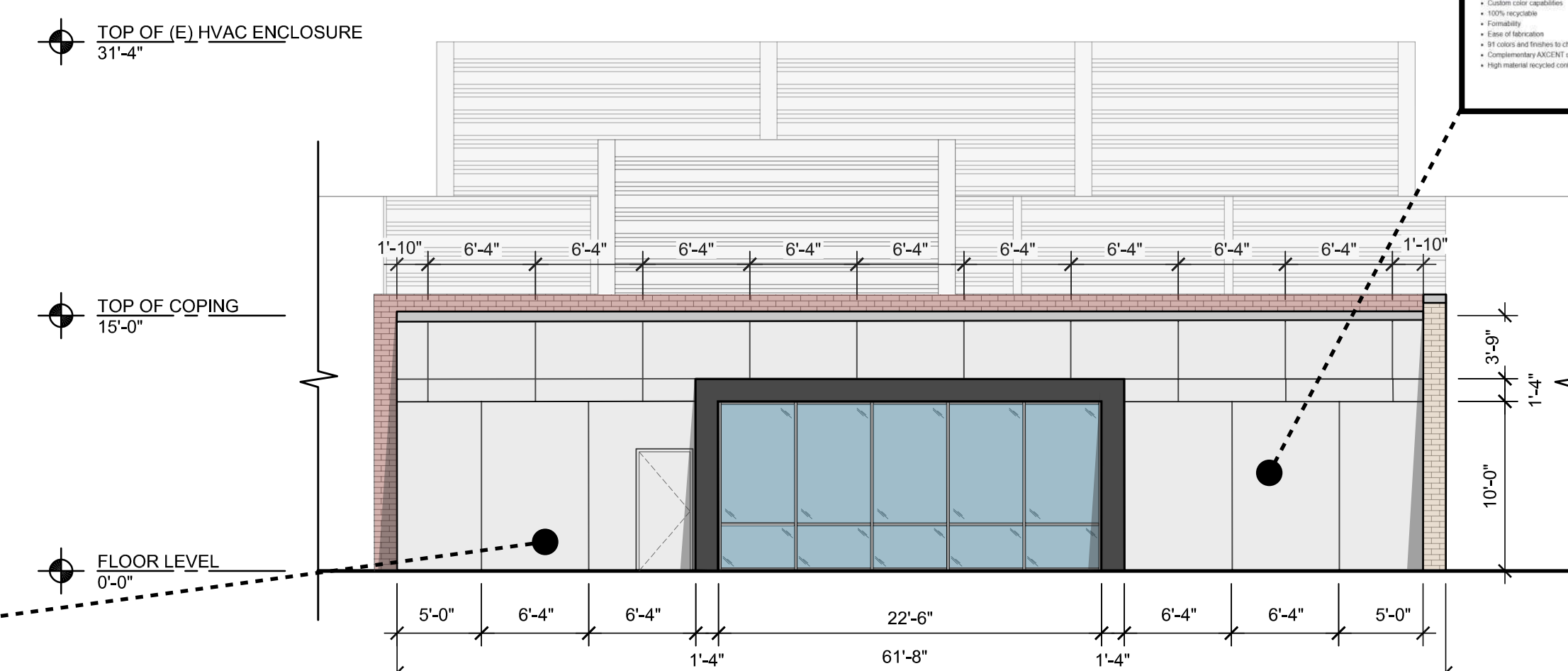
DRAWING TITLE  
**ELECTRICAL SITE LIGHTING PLAN**

DRAWING NUMBER  
**E-101**



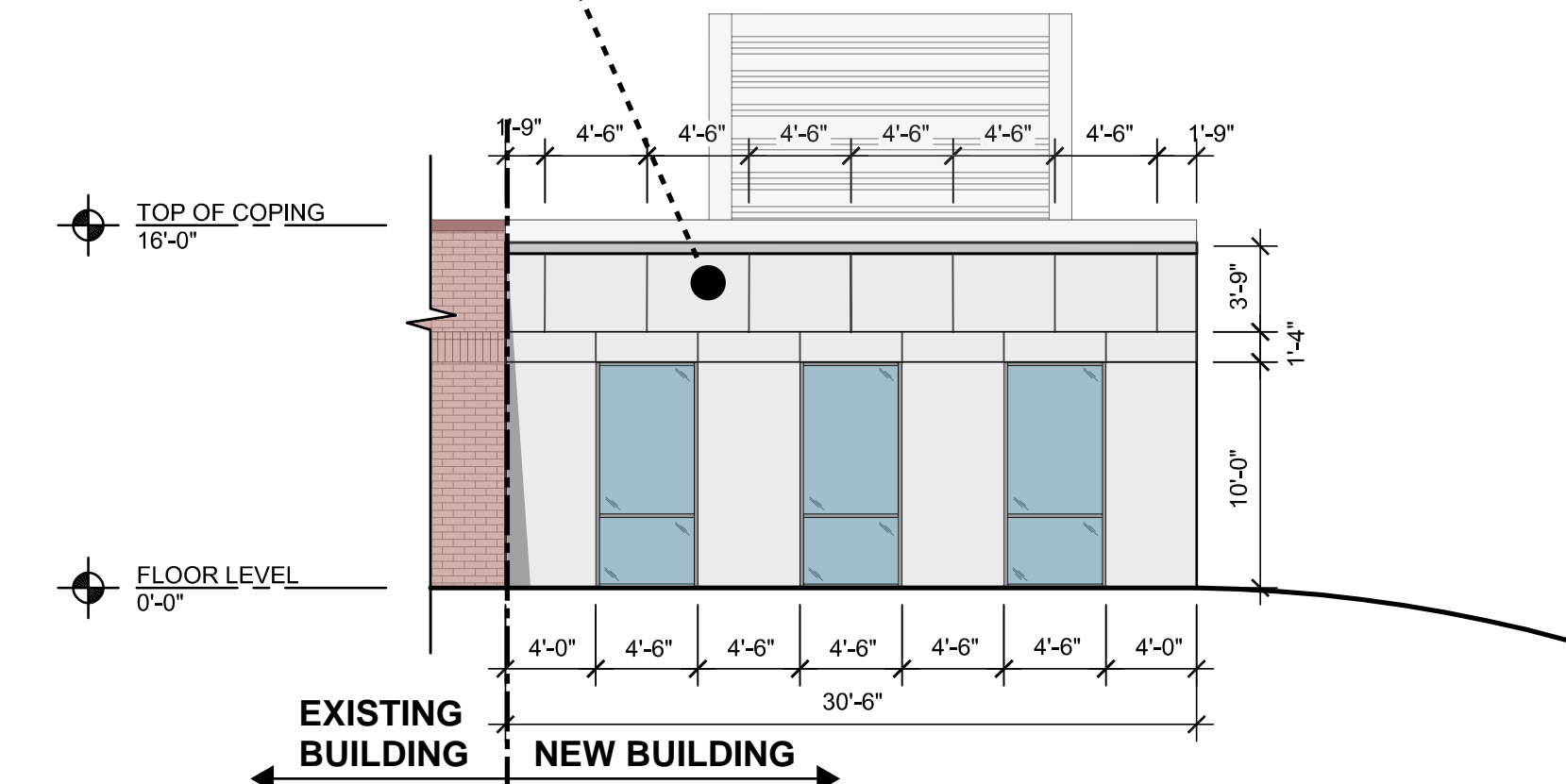
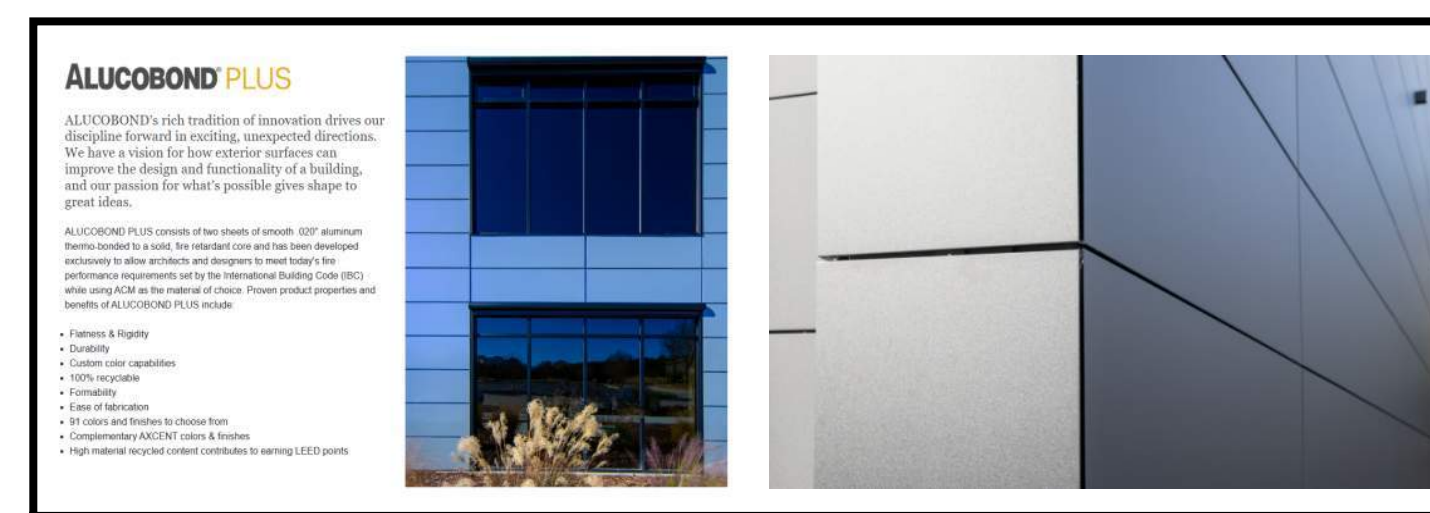
**1 NORTH EXTERIOR ELEVATION**  
1/8" = 1'-0"

OFFICE ADDITION - NORTH ELEVATION  
825 SQ. FT. TOTAL  
570 SQ. FT. - BRICK (68%)  
186 SQ. FT. - STOREFRONT GLAZING (24%)  
59 SQ. FT. - ALUCOBOND PANELING (6%)



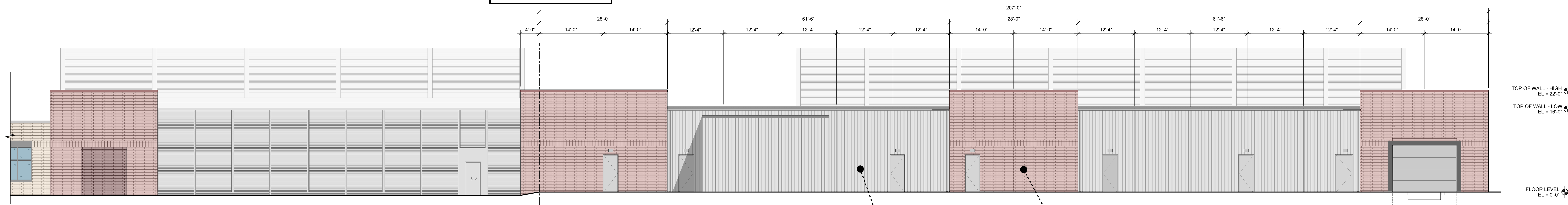
**2 EAST EXTERIOR ELEVATION**  
1/4" = 1'-0"

OFFICE ADDITION - EAST ELEVATION  
943 SQ. FT. TOTAL  
686 SQ. FT. - ALUCOBOND PANELING (73%)  
221 SQ. FT. - STOREFRONT GLAZING (23%)  
36 SQ. FT. - BRICK (4%)



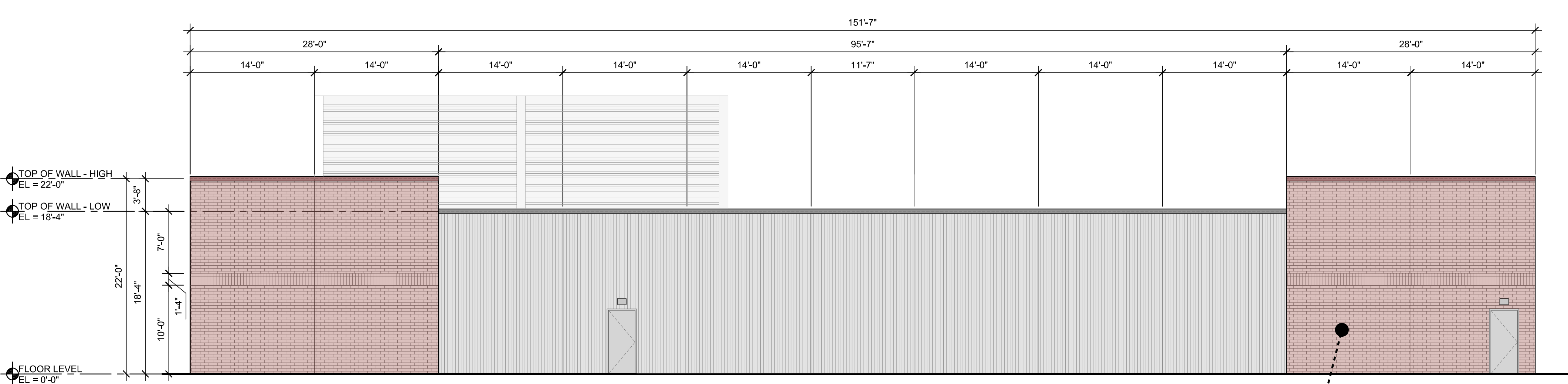
**3 SOUTH EXTERIOR ELEVATION**  
1/8" = 1'-0"

OFFICE ADDITION - SOUTH ELEVATION  
465 SQ. FT. TOTAL  
330 SQ. FT. - ALUCOBOND PANELING (70%)  
135 SQ. FT. - STOREFRONT GLAZING (30%)



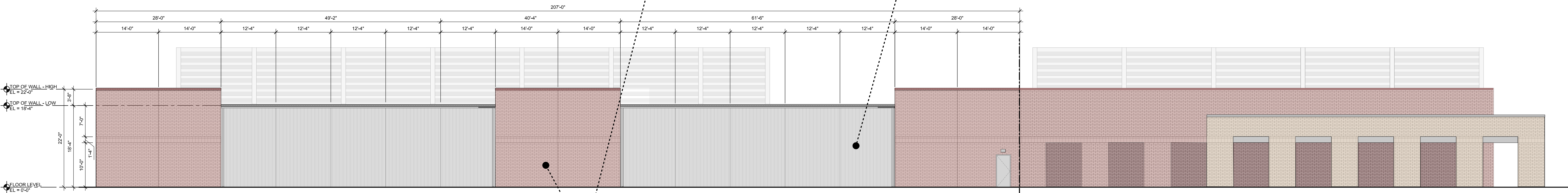
**4 NORTH EXTERIOR ELEVATION**  
1/8" = 1'-0"

DATA CENTER ADDITION - NORTH ELEVATION  
4,125 SQ. FT. TOTAL  
2,149 SQ. FT. - FORMLINER PRECAST (51%)  
1,742 SQ. FT. - BRICK (41%)  
342 SQ. FT. - DOORS/FRAMES (8%)



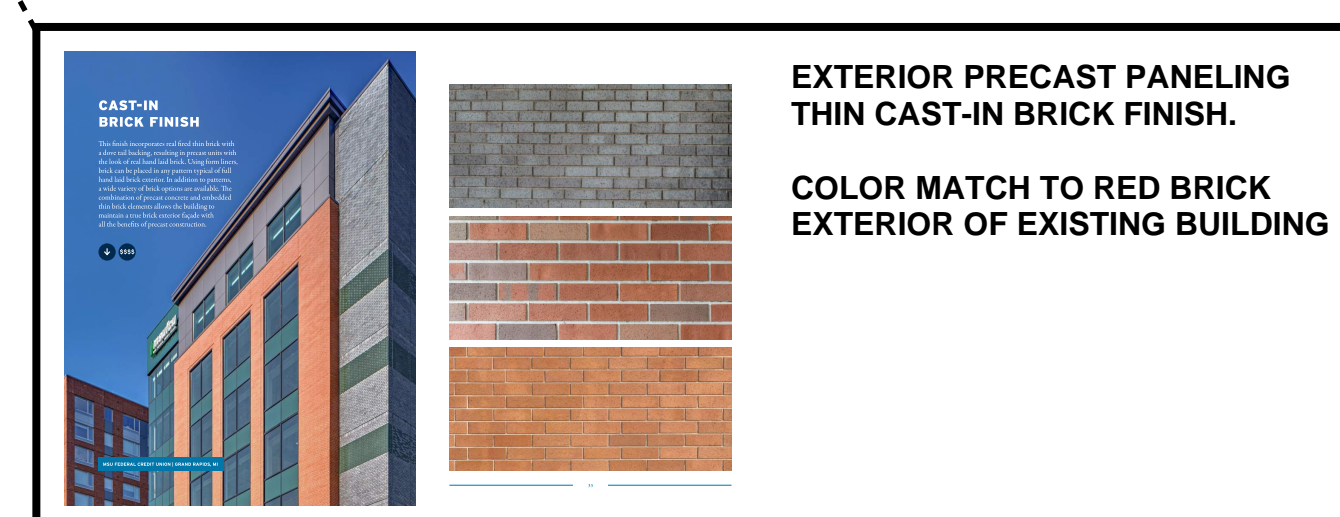
**5 WEST EXTERIOR ELEVATION**  
1/8" = 1'-0"

DATA CENTER ADDITION - WEST ELEVATION  
3,075 SQ. FT. TOTAL  
1,805 SQ. FT. - FORMLINER PRECAST (59%)  
1,222 SQ. FT. - BRICK (40%)  
48 SQ. FT. - DOORS/FRAMES (1%)



**6 SOUTH EXTERIOR ELEVATION**  
1/8" = 1'-0"

DATA CENTER ADDITION - SOUTH ELEVATION  
4,135 SQ. FT. TOTAL  
2,286 SQ. FT. - FORMLINER PRECAST (55%)  
1,845 SQ. FT. - BRICK (44%)  
24 SQ. FT. - DOORS/FRAMES (1%)



EXTERIOR PRECAST PANELING  
THIN CAST-IN BRICK FINISH.  
COLOR MATCH TO RED BRICK  
EXTERIOR OF EXISTING BUILDING





EXTERIOR PRECAST PANELING  
RANDOM RIB PATTERN  
COLOR MATCH EXTERIOR OF EXISTING BUILDING

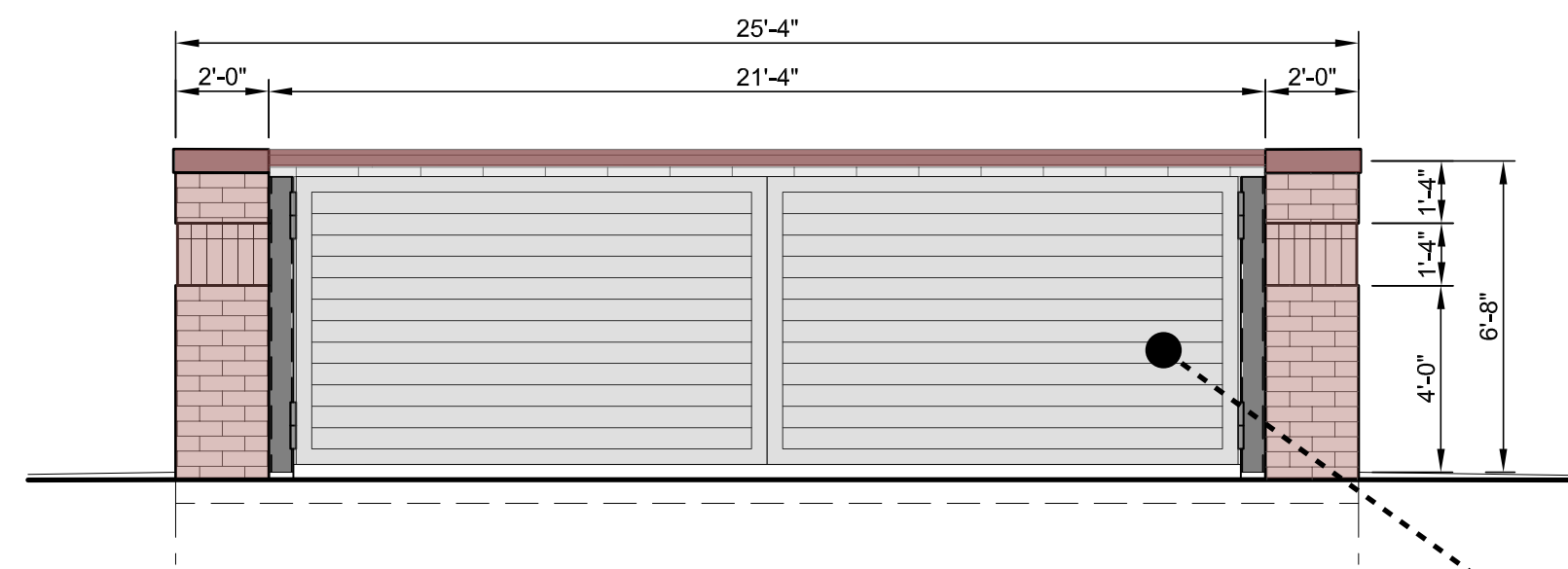
RANDOM:  
Ribs are 2.5" wide  
at the base and  
1.5" high. Rib area  
horizontal to the  
verts to create the  
random pattern and  
de-emphasize caulk  
joints.



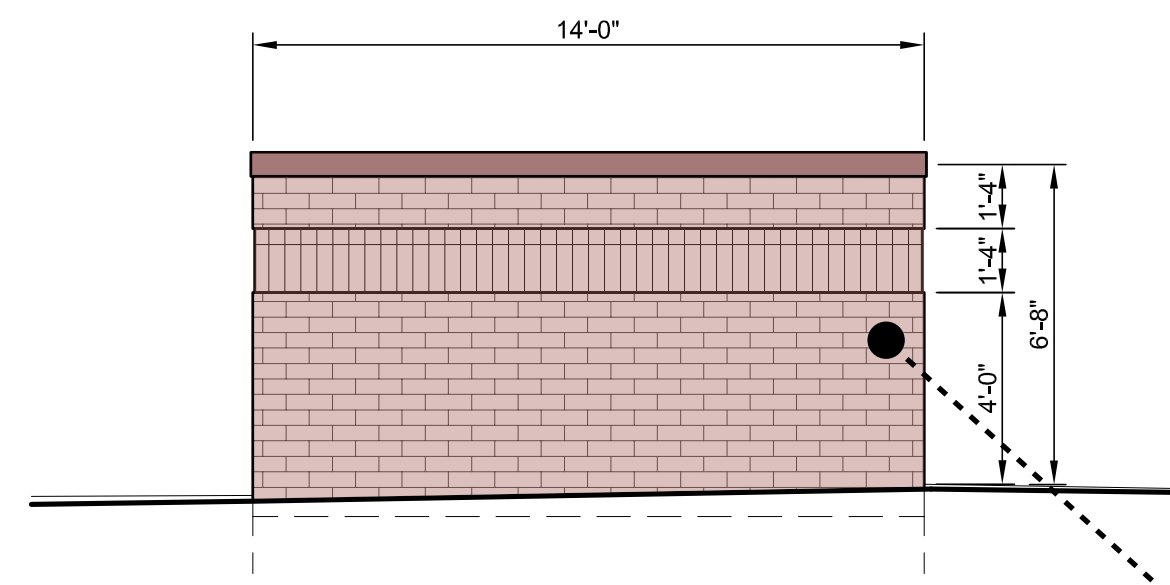
EXTERIOR PRECAST PANELING  
THIN CAST-IN BRICK FINISH.  
COLOR MATCH TO RED BRICK  
EXTERIOR OF EXISTING BUILDING

TOTAL NEW BUILDING MATERIAL BREAKDOWN  
13,696 SQ. FT. TOTAL  
6,240 SQ. FT. - FORMLINER PRECAST (46%)  
5,415 SQ. FT. - BRICK (39%)  
1,075 SQ. FT. - ALUCOBOND PANELING (8%)  
552 SQ. FT. - STOREFRONT GLAZING (4%)  
414 SQ. FT. - DOORS/FRAMES (3%)

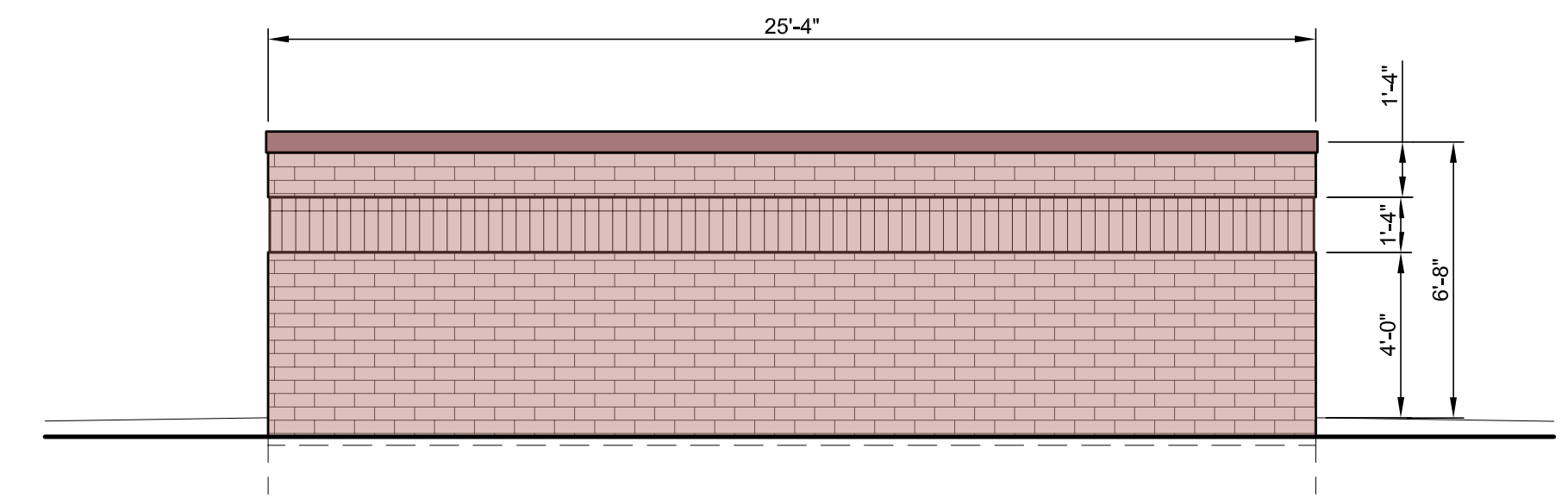
EXP U.S. Services Inc. t: +1.614.744.4300   f: +1.614.744.4350 250 N. 5th Street Suite 350 Columbus, OH 43215 U.S.A.		 	DRAWN BY	MV
PROJECT			DES MOINES DATA CENTER	TITLE
PROJECT #		RUS-25008152-A0	SCALE	1/8" = 1'-0"
			DATE	10/22/2025
			RE:	SITE PLAN APPROVAL



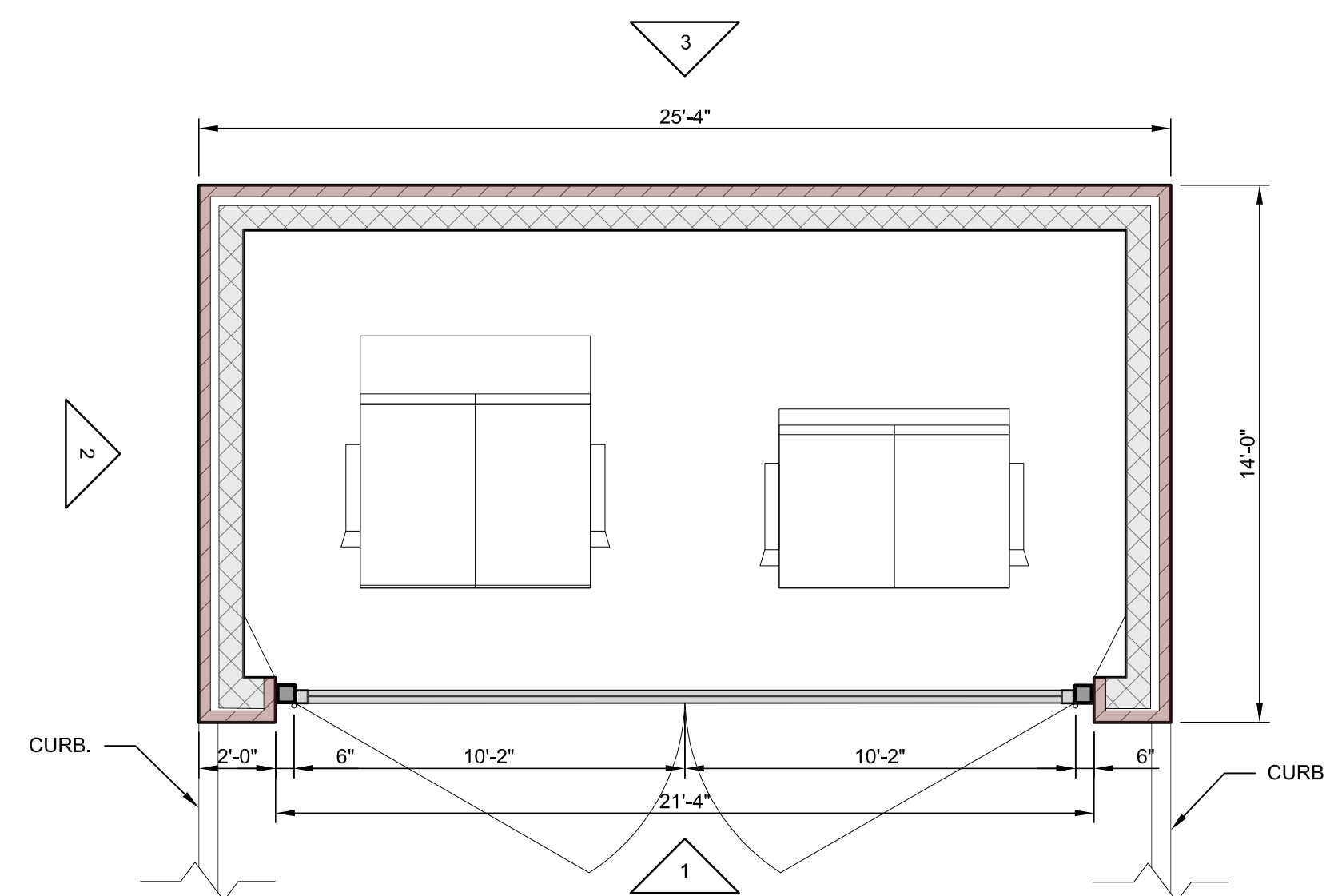
**1 DUMPSTER ENCLOSURE - FRONT ELEVATION**  
SCALE: 1/4" = 1'-0"



**2 DUMPSTER ENCLOSURE - SIDE ELEVATION**  
SCALE: 1/4" = 1'-0"



**3 DUMPSTER ENCLOSURE - BACK ELEVATION**  
SCALE: 1/4" = 1'-0"



**4 DUMPSTER ENCLOSURE PLAN - FOR REFERENCE**  
SCALE: 1/4" = 1'-0"

**CORRUGATED METAL RIB GATE - CITYSCAPES, INC. TOUGHGATE**

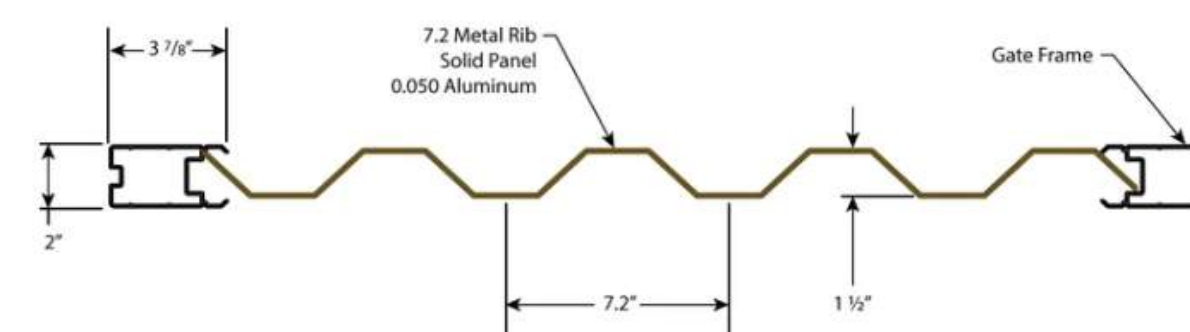
- GATE RIB COLOR FINISH TO MATCH METAL FACADE OF EXISTING BUILDING
- GATE FRAME/POSTS TO MATCH COLOR OF EXTERIOR MAIN BUILDING DOOR FRAMES



7.2 RIB METAL INFILL SPECS

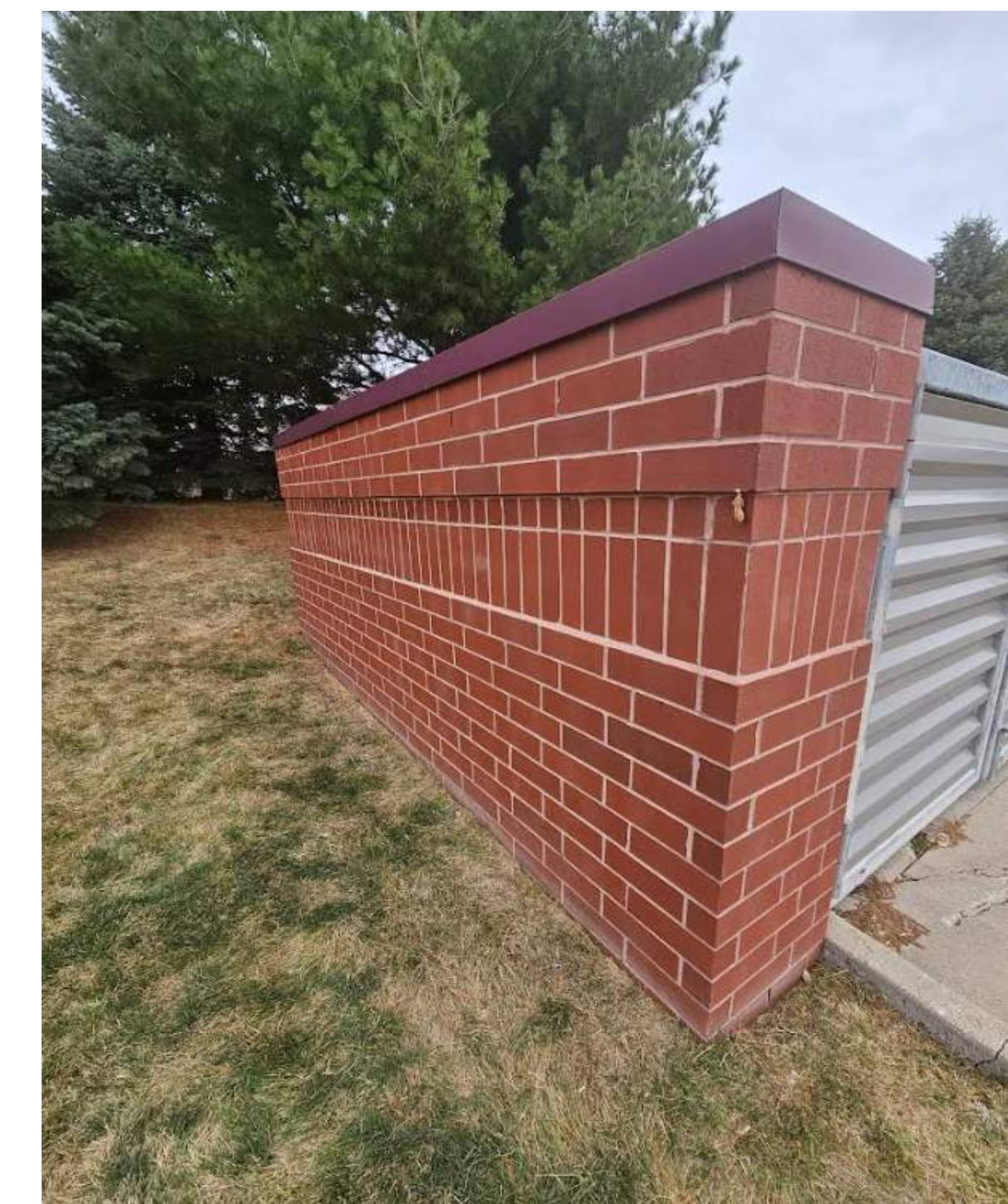
- **Material:** Smooth aluminum, 3003 H14 alloy
- **Thickness:** .050"
- **Finish:** 4000 Series powder finish on both sides
- **Frame:** 6063-T5 extruded aluminum gate frame

**7.2 RIB METAL CROSS-SECTION**

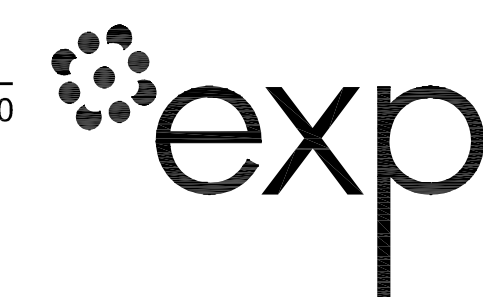


**CMU / BRICK WALL CONSTRUCTION**

- EXTERIOR LAID BRICK TO MATCH EXISTING BRICK SIZE AND COLOR OF MAIN BUILDING. (PHOTO BELOW IS DUMPSTER ENCLOSURE THAT WILL BE DEMOLISHED) BRICK & COPING WILL MATCH THIS.

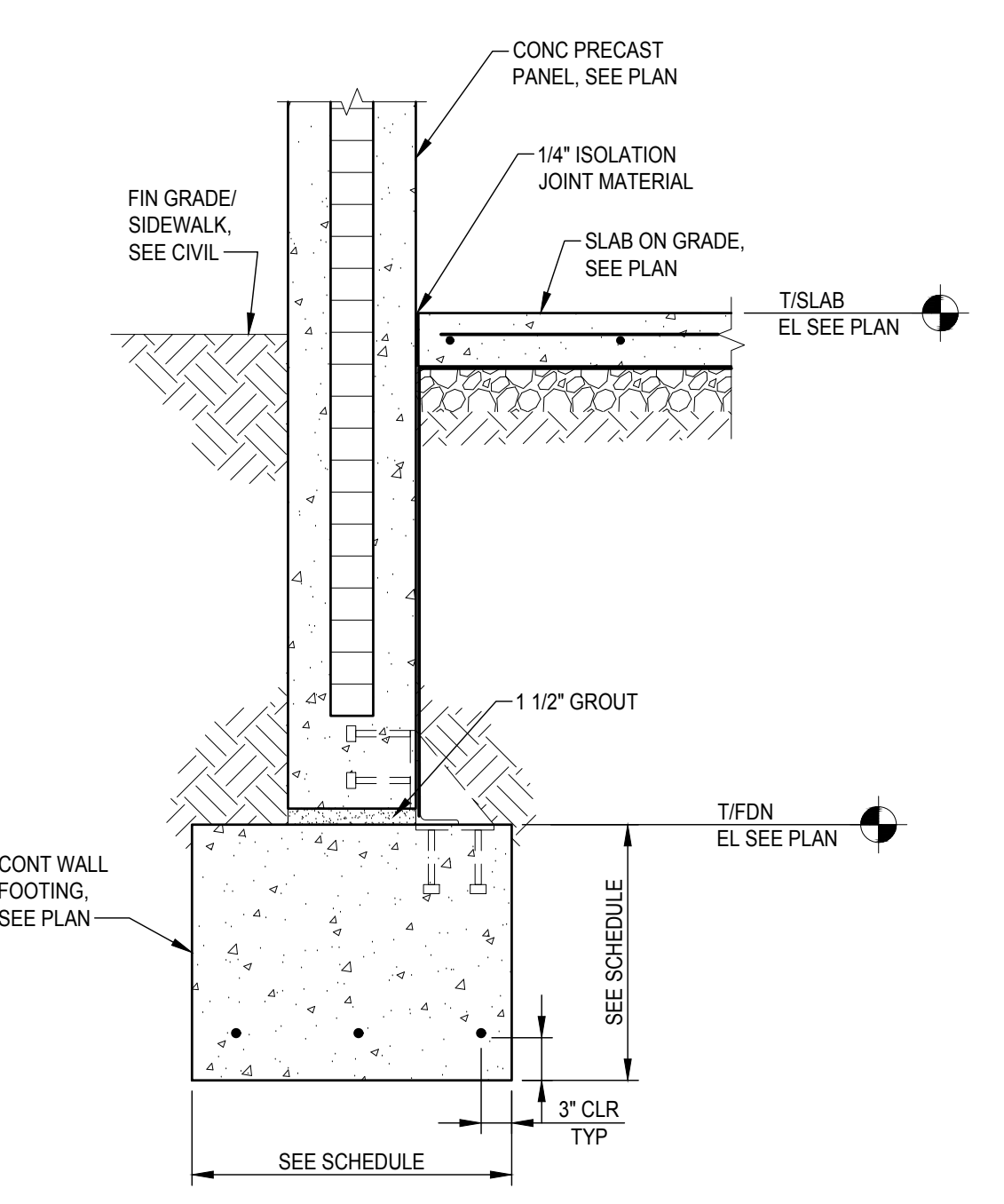


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250 N. 5th Street  
Suite 350  
Columbus, OH 43215  
U.S.A.

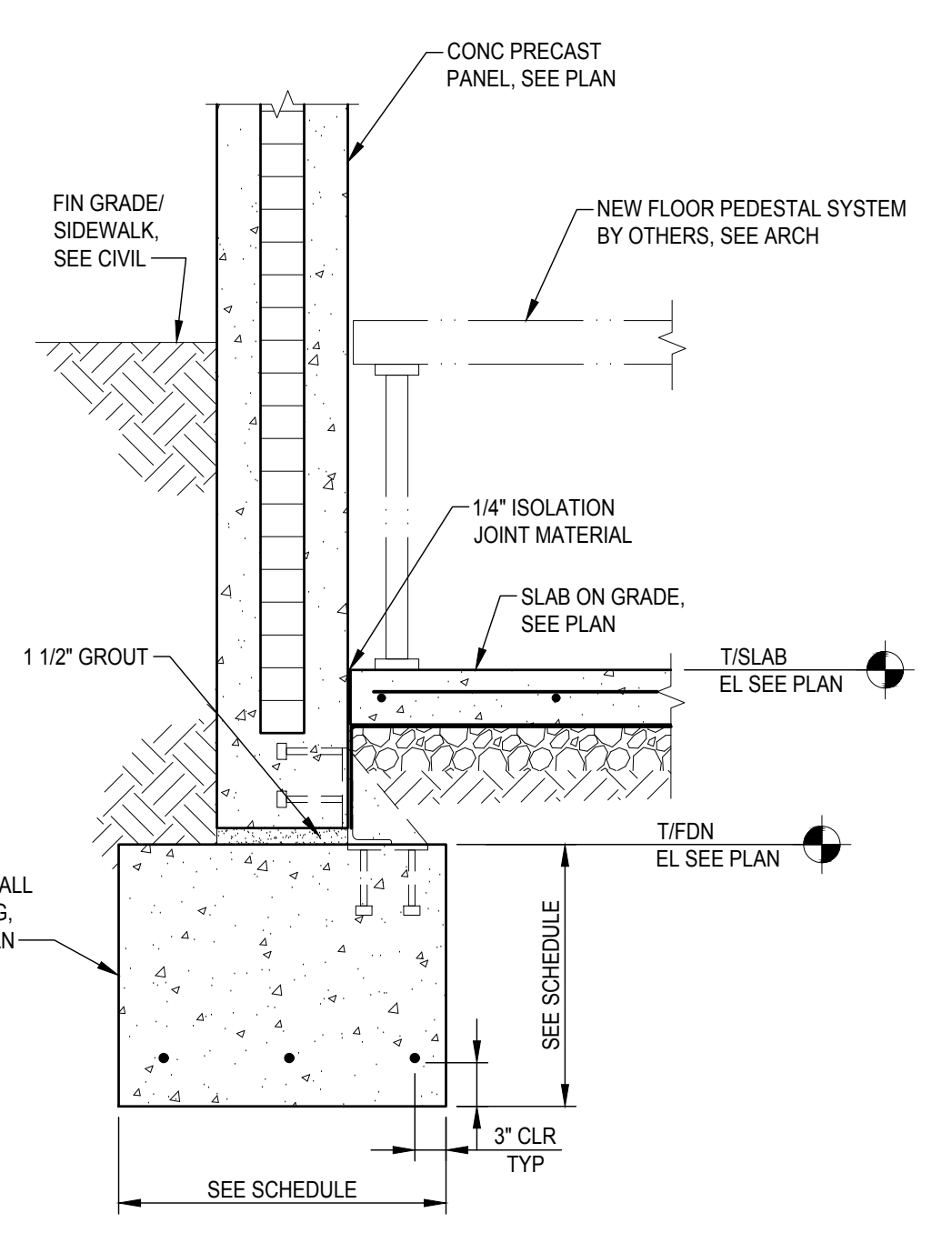


DRAWN BY	EXP
TITLE	DUMPSTER ENCLOSURE
SCALE	1/4" = 1'-0"
DATE	10/23/2025
RE:	SITE PLAN APPROVAL

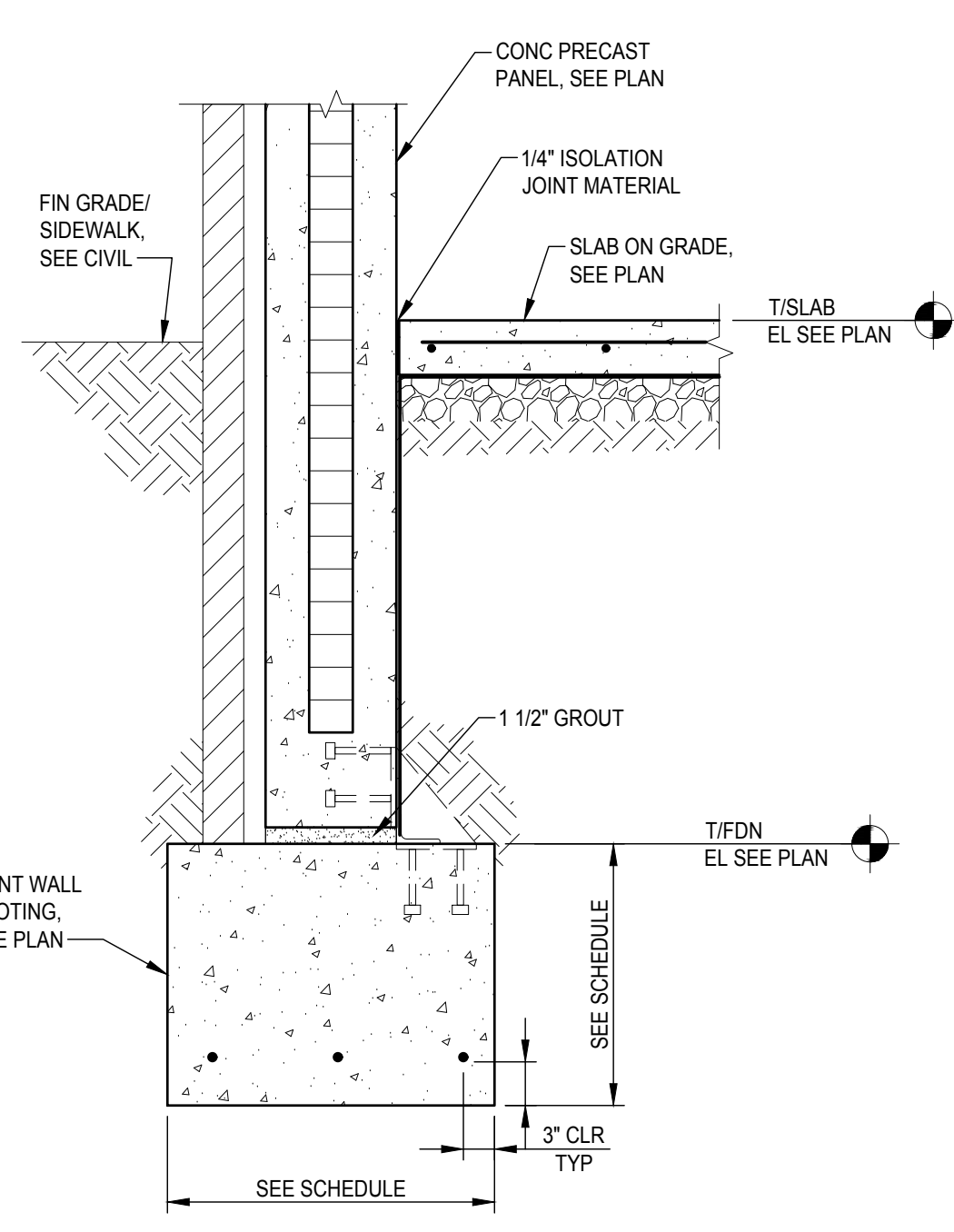
PROJECT	DES MOINES DATA CENTER
PROJECT #	RUS-25008152-A0



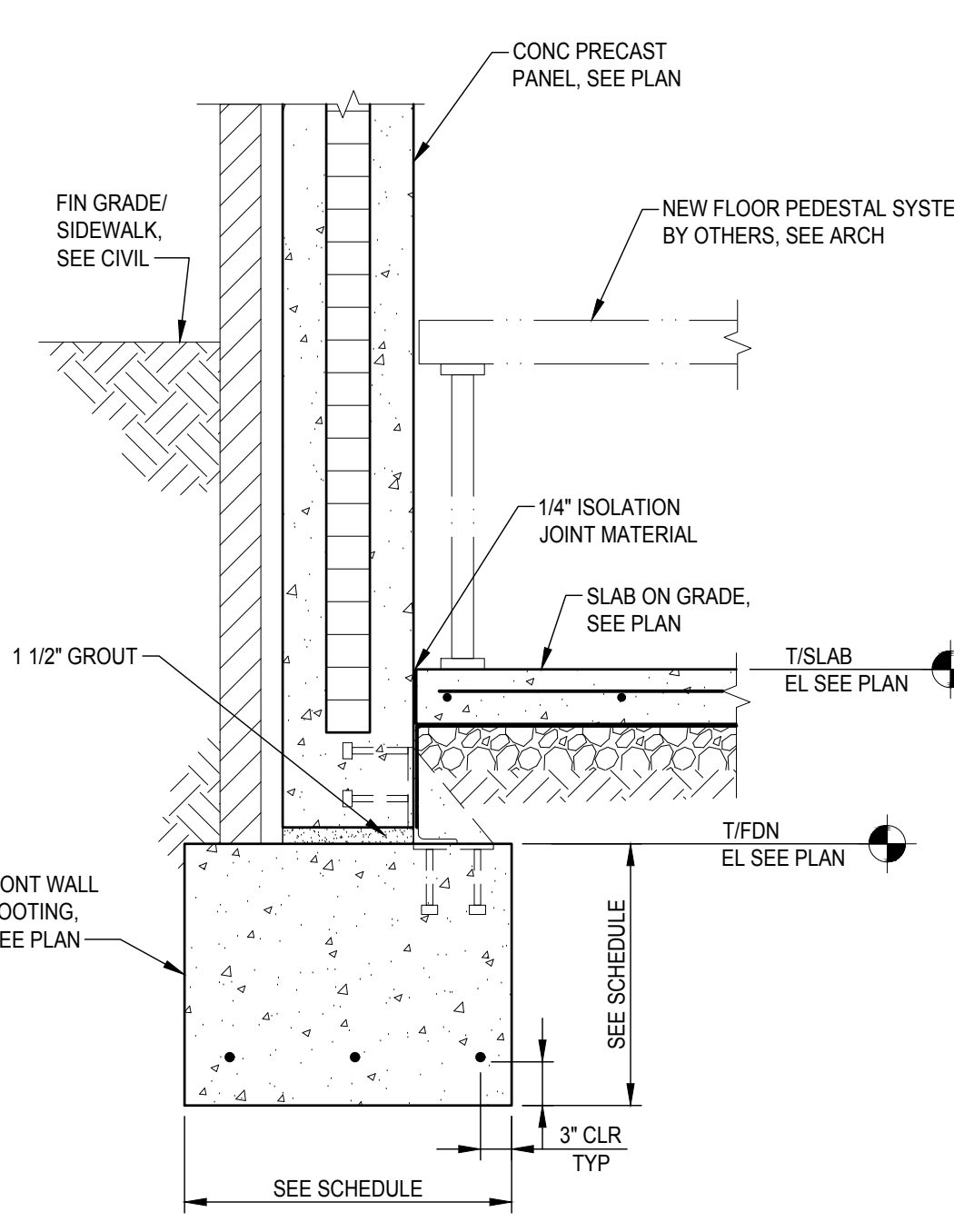
**SECTION 1**  
SCALE: 3/4" = 1'-0"  
S-400



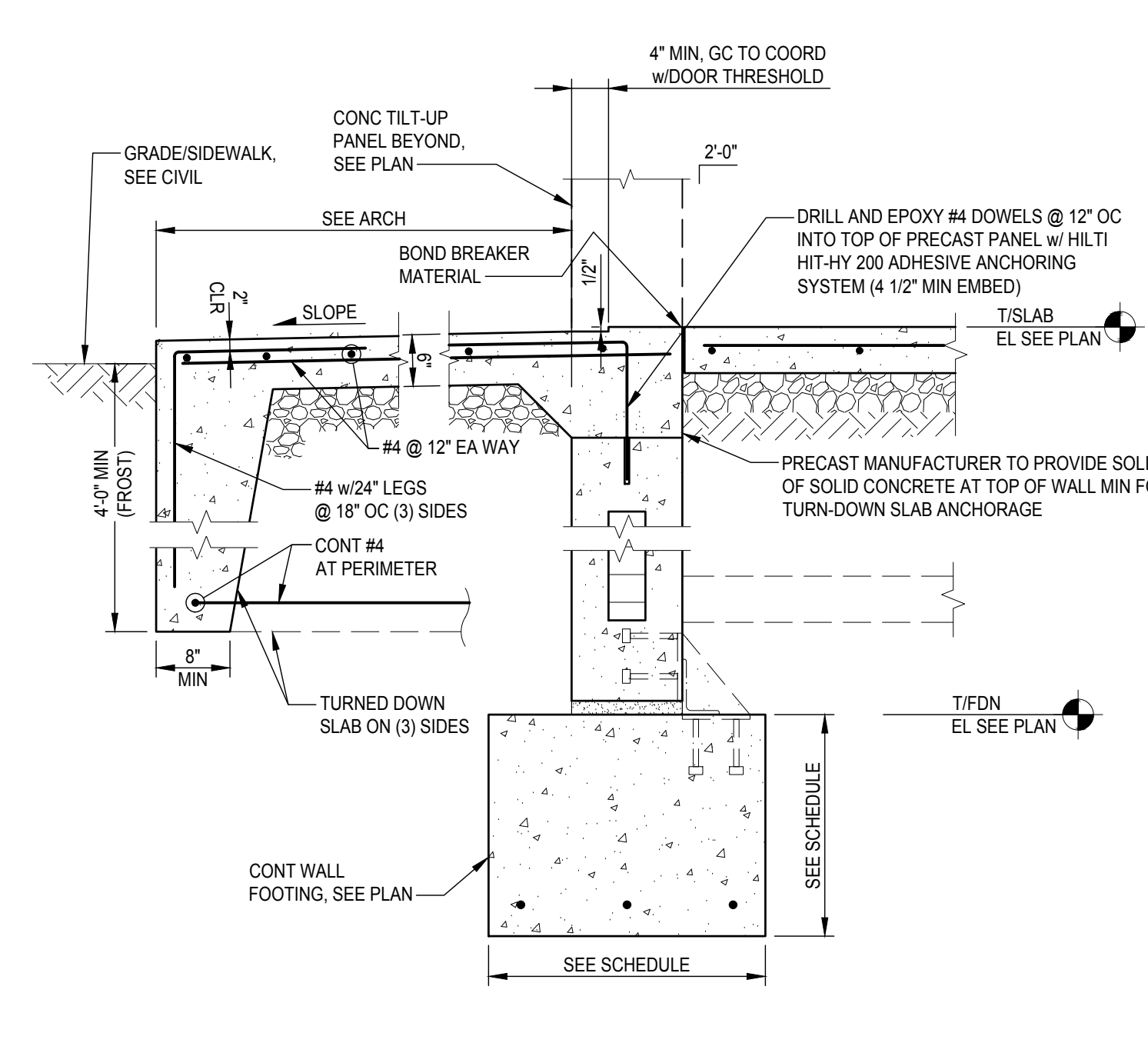
**SECTION 1A**  
SCALE: 3/4" = 1'-0"  
S-400



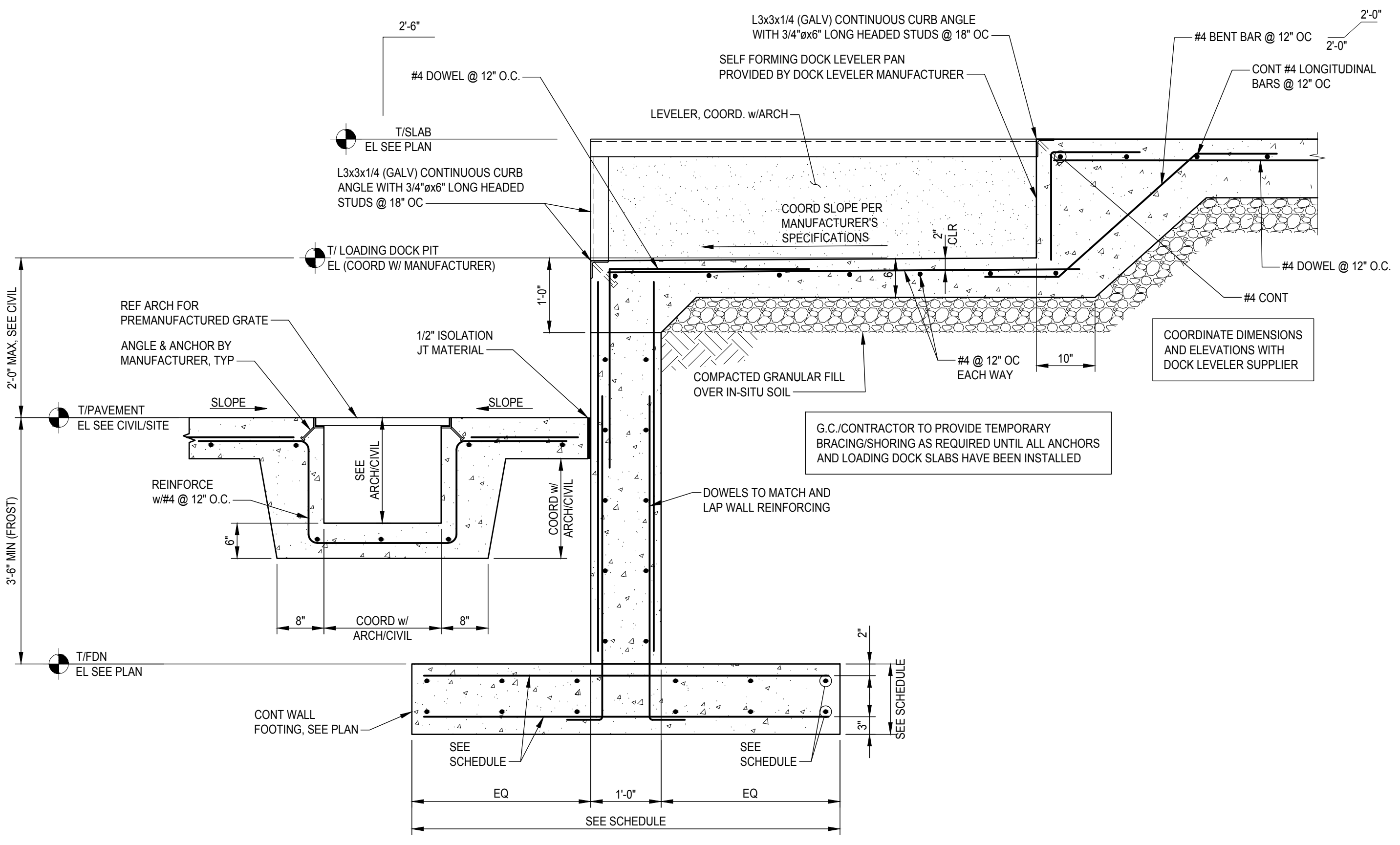
**SECTION 2**  
SCALE: 3/4" = 1'-0"  
S-400



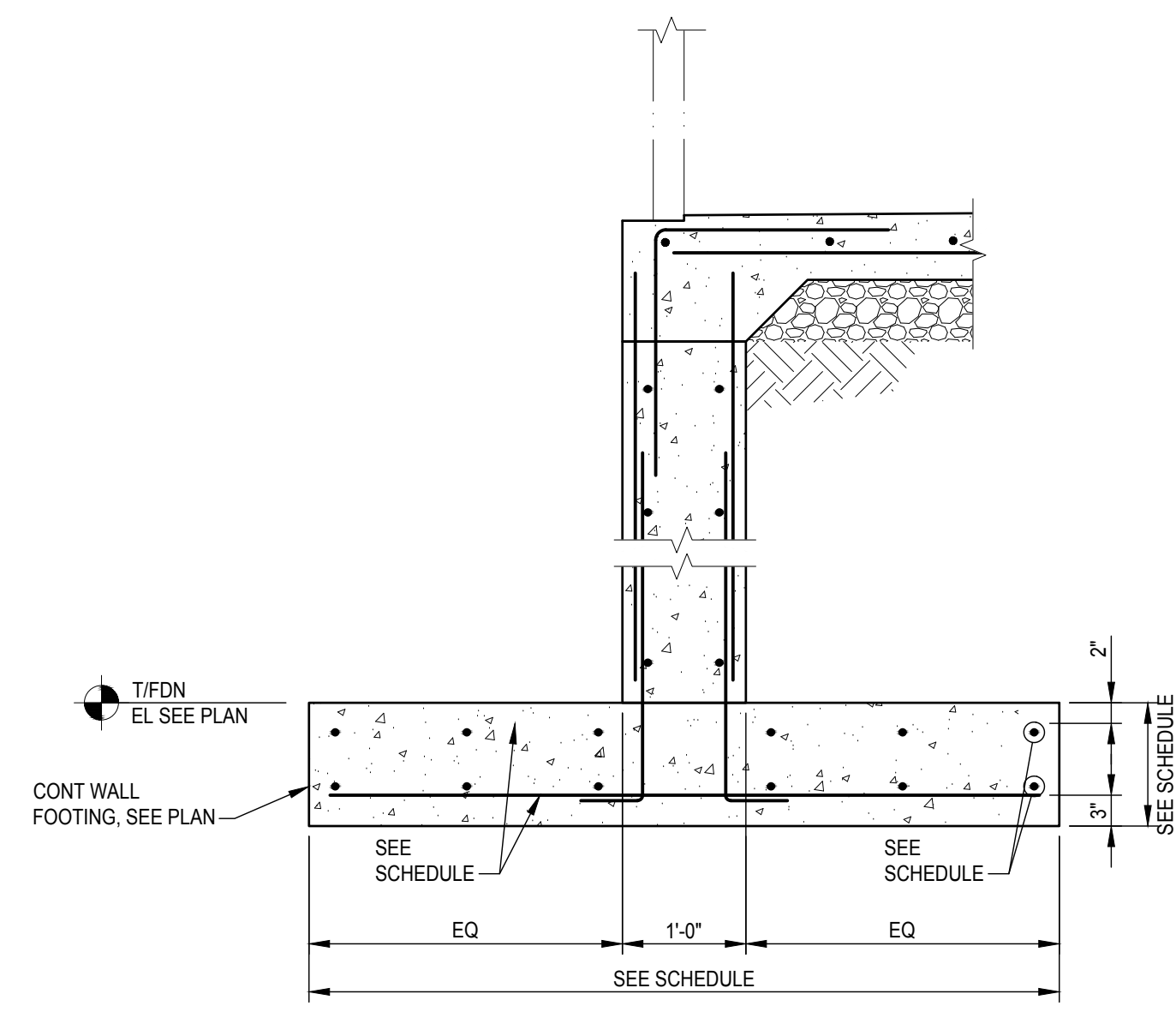
**SECTION 2A**  
SCALE: 3/4" = 1'-0"  
S-400



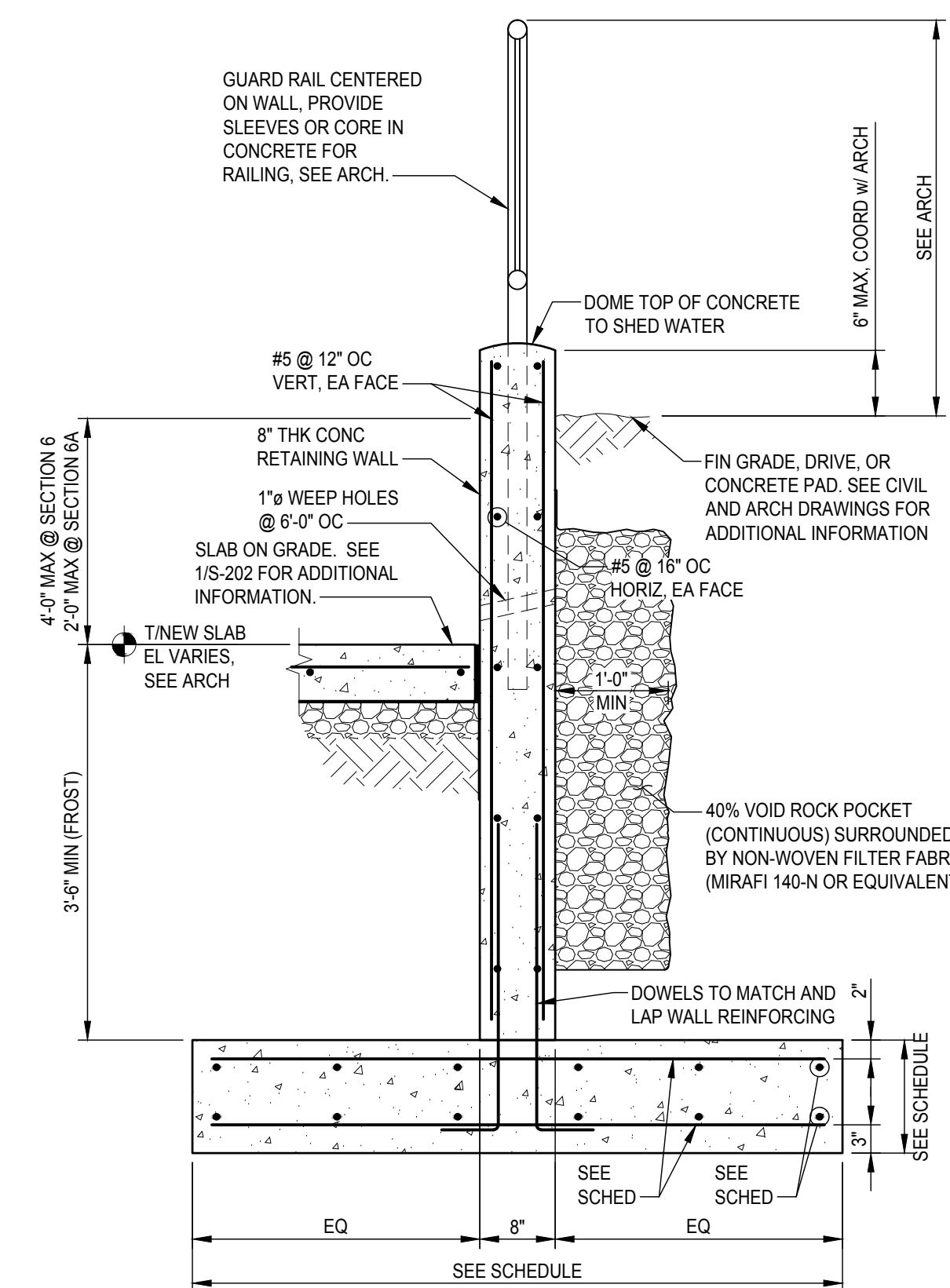
**SECTION 3**  
SCALE: 3/4" = 1'-0"  
S-400



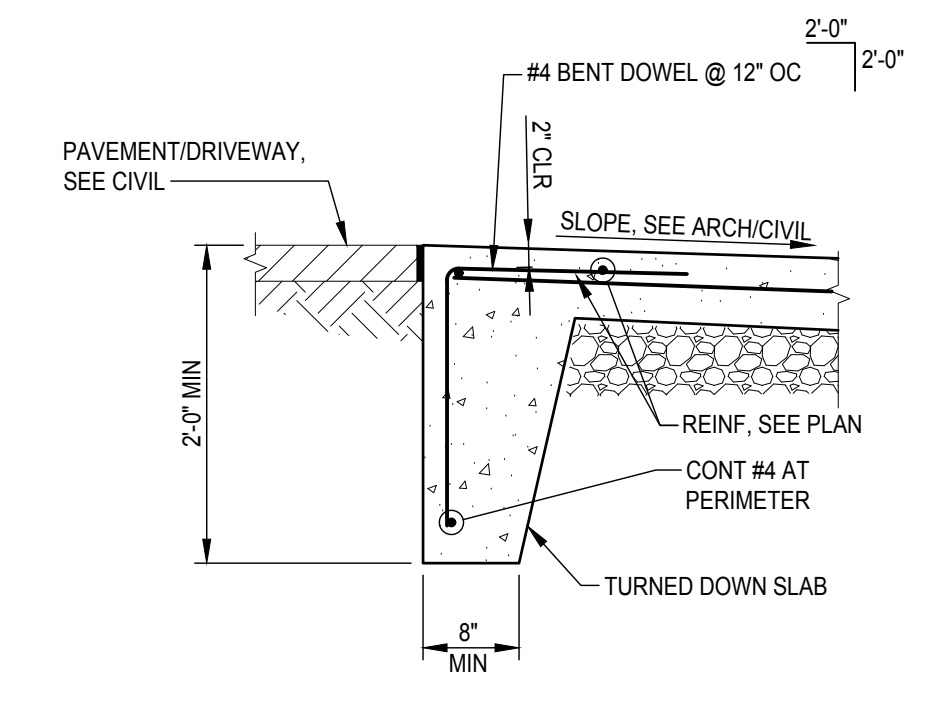
**SECTION 4**  
SCALE: 3/4" = 1'-0"  
S-400



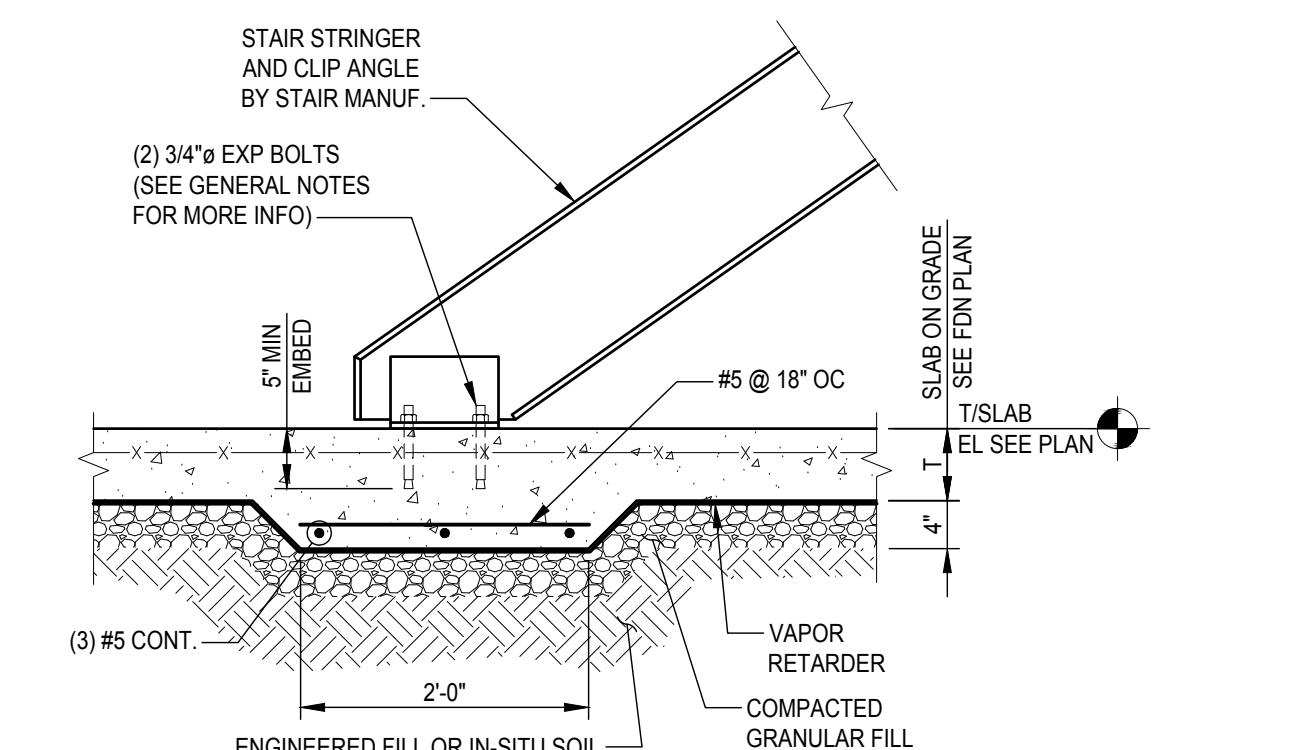
**SECTION 5**  
SCALE: 3/4" = 1'-0"  
S-400



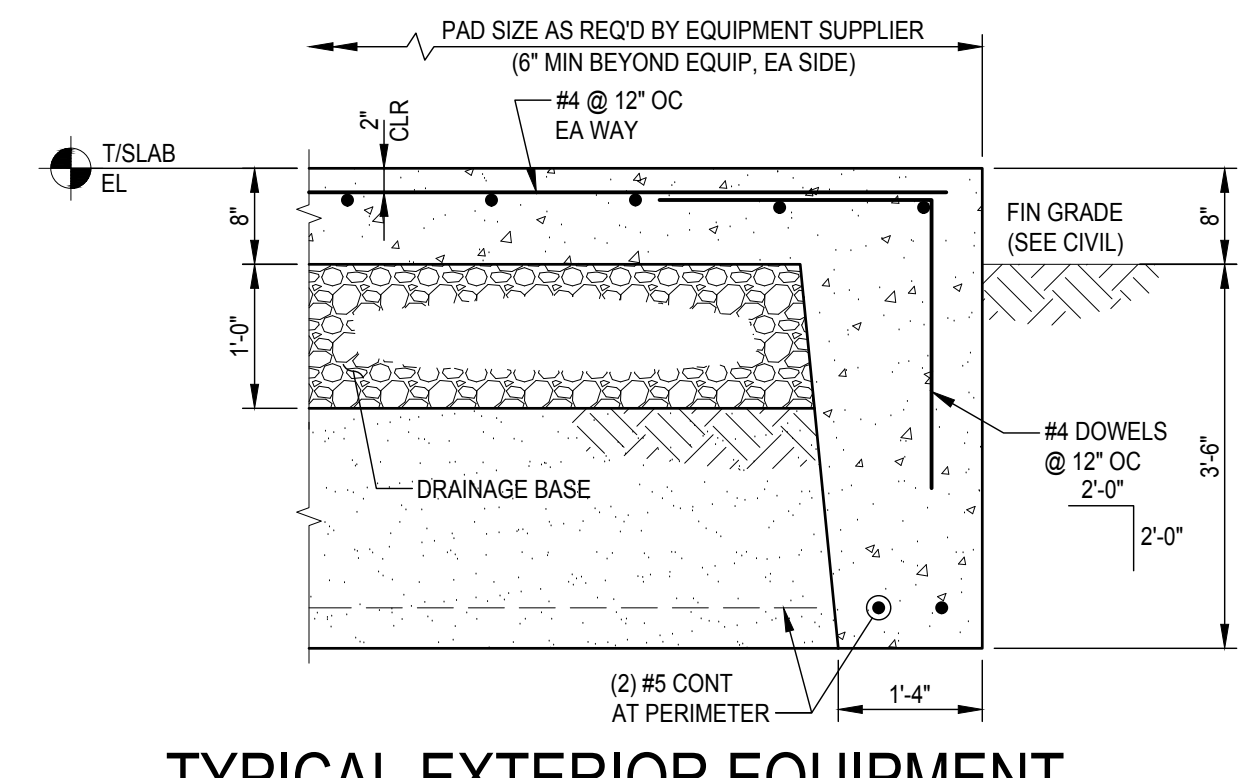
**SECTION 6**  
SCALE: N.T.S.  
S-400



**SECTION 7**  
SCALE: N.T.S.  
S-400



**TYPICAL THICKENED SLAB AT STAIR/RAMP**  
SCALE: 3/4" = 1'-0"  
S-400



**TYPICAL EXTERIOR EQUIPMENT PAD TURN-DOWN DETAIL**  
SCALE: N.T.S.  
S-400

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252 Broad St., 3rd Floor, Columbus, OH 43215  
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www.pjfford.com

SEAL

**DES MOINES DATA CENTER**

**US Signal**  
390 NE Alice's Road  
Waukee, IA 50259

NO.	DATE	REVISION
07/22/25	DD	ISSUE
08/12/25	TS	ISSUE
10/16/25	RD	PERMIT

PROJECT NUMBER: A00025-0198  
PROJECT DATE:  
DRAWN BY: SMA  
CHECKED BY: MCG  
SCALE: AS NOTED

DRAWING TITLE  
**FOUNDATION SECTIONS**

DRAWING NUMBER  
**S-400**