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SURVEYING  
LANDSCAPE ARCHITECTURE 6219 Centre Park Dr.  
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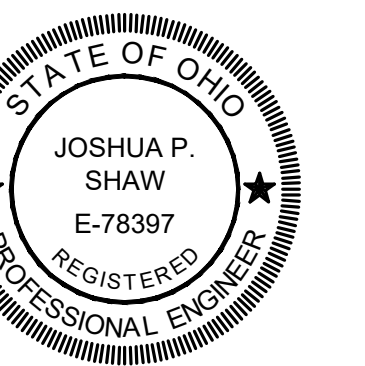


## BRATE FARM BUILDINGS 5, 6, & 7

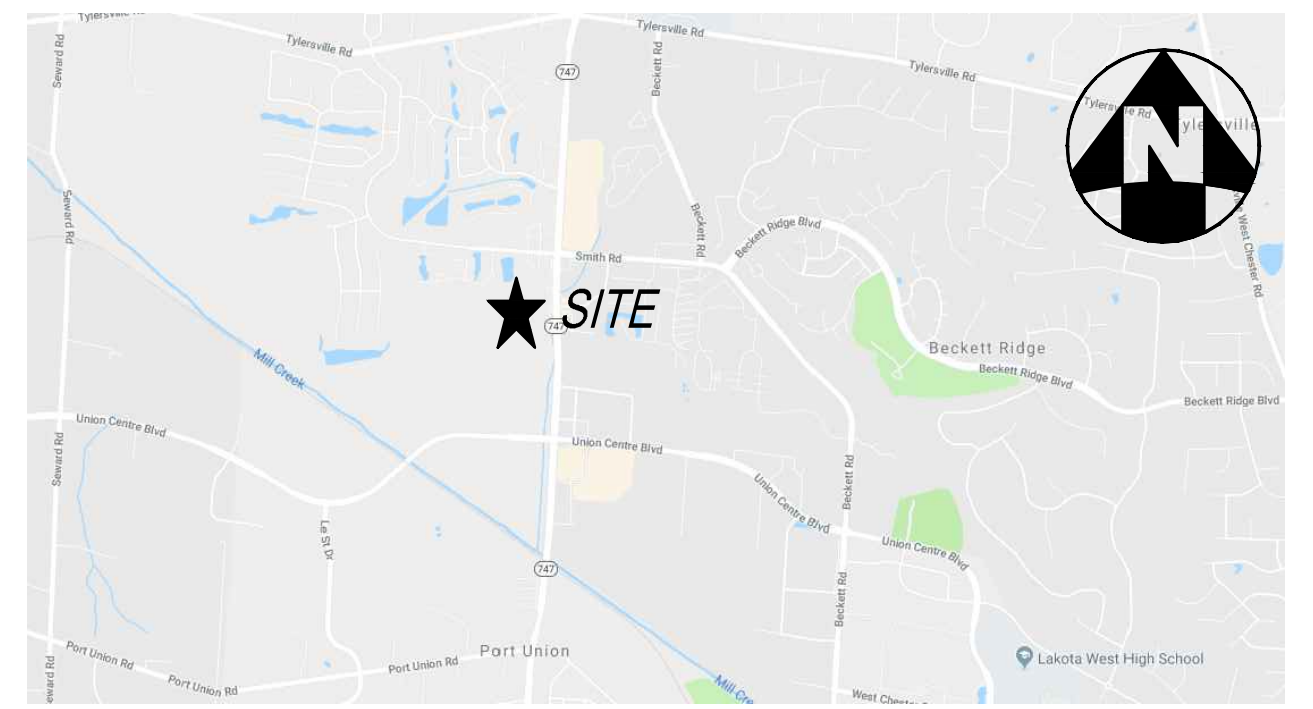
Brate Road West Chester, OH 45069 Brate Road West Chester, OH 45069

Project No.	160651.004	
Date:	08.23.19	
Issued For:	CONSTRUCTION SET	
Revisions:		
No.	Date	Description

Not For Construction



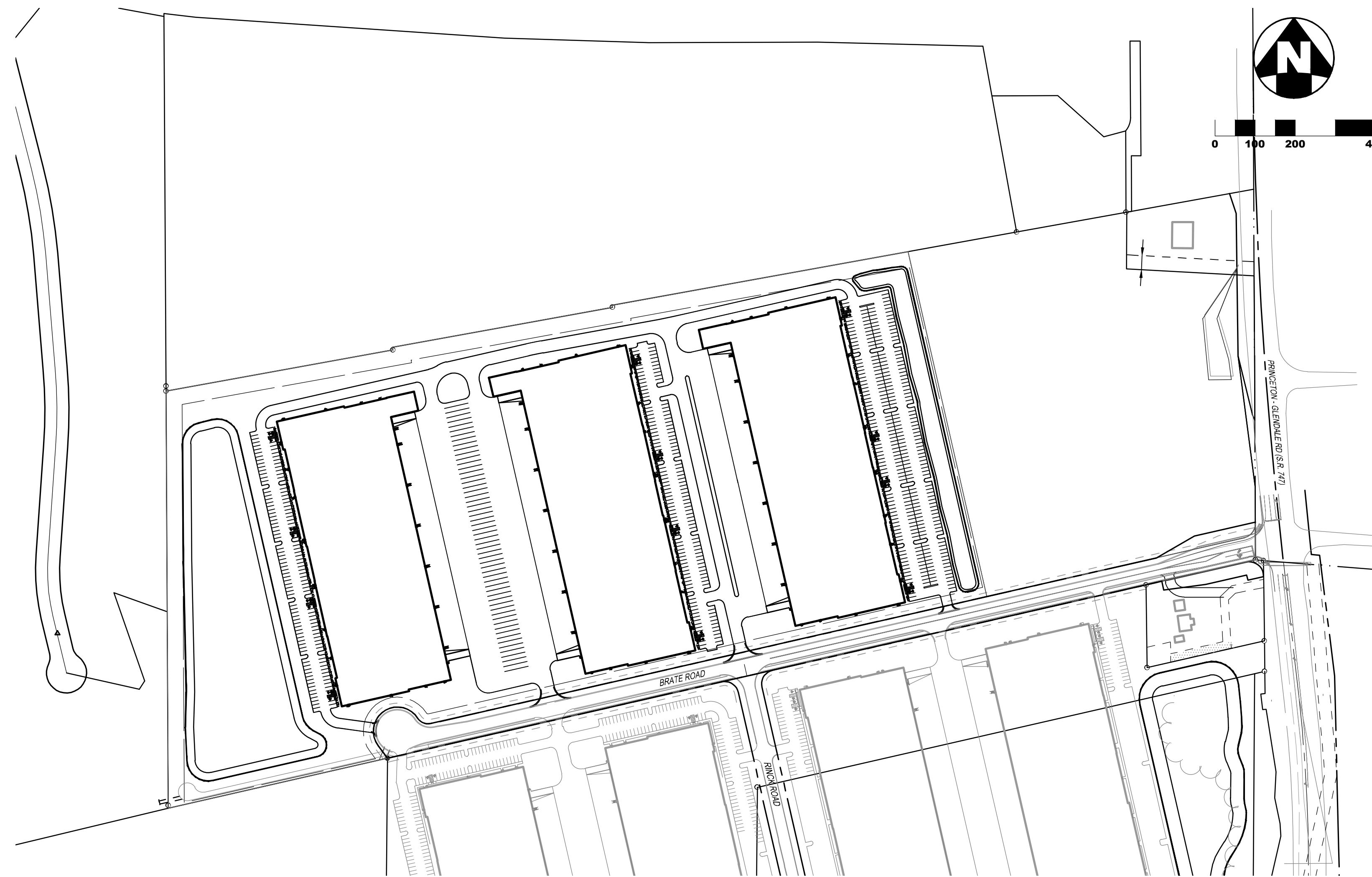
C000  
COVER SHEET



VICINITY MAP  
NTS

# BRATE INDUSTRIAL PARK CONSTRUCTION DRAWINGS PLAN SET

SECTION 11, TOWN 2, RANGE 2  
WEST CHESTER TOWNSHIP, BUTLER COUNTY, OHIO



### GENERAL NOTES

- CONTRACTOR SHALL OBTAIN ALL NECESSARY PERMITS FOR CONSTRUCTION ACTIVITIES IN ACCORDANCE WITH LOCAL, STATE, & FEDERAL REGULATIONS.
- THE CONTRACTOR IS TO PERFORM ALL INSPECTIONS AS REQUIRED BY THE OHIO EPA FOR THE NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) PERMIT AND FURNISH OWNERS REPRESENTATIVE WITH WRITTEN REPORTS. OWNER WILL OBTAIN PERMITS.
- MAINTENANCE OF TRAFFIC** - WHEN CONSTRUCTION ACTIVITIES ALONG ADJACENT ROADWAYS REQUIRE TEMPORARY MAINTENANCE OF TRAFFIC, TEMPORARY TRAFFIC CONTROL SHALL BE IN ACCORDANCE WITH ODOT STANDARD DRAWING M1-61.61.
- ITEM NUMBERS REFER TO THE OHIO DEPARTMENT OF TRANSPORTATION CONSTRUCTION AND MATERIAL SPECIFICATIONS, AND ALL NEW CONSTRUCTION WORK SHALL BE DONE ACCORDING TO SAID SPECIFICATIONS AND IN ACCORDANCE WITH APPLICABLE STANDARDS OUTLINED IN THE "BUTLER COUNTY SUBDIVISION REGULATIONS" WHEN IN CONFLICT, THE BUTLER COUNTY REQUIREMENTS SHALL PREVAIL.
- PROTECTION OF EXISTING TREES AND VEGETATION - PROTECT EXISTING TREES AND OTHER VEGETATION AGAINST UNNECESSARY CUTTING, BREAKING OR SKINNING OF ROOTS, SKINNING OR BRUISING OF BARK, SMOTHERING OF TREES BY STOCKPILING CONSTRUCTION MATERIALS OR EXCAVATED MATERIALS WITHIN DRIP LINE, EXCESS FOOT OR VEHICULAR TRAFFIC, OR PARKING OF VEHICLES WITHIN DRIP LINE. PROVIDE TEMPORARY GUARDS TO PROTECT TREES AND VEGETATION TO BE LEFT STANDING.
- SUBGRADE EXCAVATION AND CONSTRUCTION TO BE PER GEOTECHNICAL ENGINEER'S RECOMMENDATIONS. SUBGRADE PREPARATION SHALL BEGIN BY CLEARING & STRIPPING UNSUITABLE MATERIAL FROM SITE. THEN PLACE & COMPACT BACKFILL MATERIAL AT GEOTECHNICAL ENGINEER'S RECOMMENDATIONS. ALL BACKFILL MATERIAL MUST BE ACCEPTABLE TO THE GEOTECHNICAL ENGINEER.
- COMPACTED FILLS ARE TO BE MADE TO A MINIMUM OF THREE FEET ABOVE THE CROWN OF ANY PROPOSED SEWER PRIOR TO CUTTING OF TRENCHES FOR PLACEMENT OF SAID SEWERS. ALL FILLS SHALL BE CONTROLLED, COMPACTED, AND INSPECTED BY AN APPROVED TESTING LABORATORY OR AN INSPECTOR FROM THE APPROPRIATE GOVERNMENTAL AGENCY.
- ADJUST ALL EXISTING CASTINGS AND CLEANOUTS WITHIN PROJECT AREA TO GRADE AS REQUIRED.
- CONTRACTOR SHALL IMPLEMENT ALL SOIL AND EROSION CONTROL PRACTICES REQUIRED BY BUTLER COUNTY AND THE OHIO EPA.
- ALL GROUND SURFACE AREAS THAT HAVE BEEN EXPOSED OR LEFT BARE AS A RESULT OF CONSTRUCTION AND ARE TO FINAL GRADE AND ARE TO REMAIN SO, SHALL BE SEED AS SOON AS PRACTICAL IN ACCORDANCE WITH SPECIFICATIONS. IF NO SPECIFICATIONS ARE SUPPLIED USE STATE OF OHIO SPECIFICATIONS ITEM 650.
- ANY FIELD TILE CUT MUST BE TIED INTO THE STORM DRAINAGE SYSTEM.
- THE CONTRACTOR SHALL VERIFY LOCATION AND ELEVATION OF ALL EXISTING UTILITIES PRIOR TO THE BEGINNING OF CONSTRUCTION OR EARTH MOVING OPERATIONS.
- ALL DIMENSIONS ARE TO THE OUTSIDE FACE OF BUILDING AND/OR EDGE OF PAVEMENT, UNLESS OTHERWISE NOTED.
- FORTY-EIGHT HOURS BEFORE DIGGING IS TO COMMENCE, THE CONTRACTOR SHALL NOTIFY THE OHIO UTILITIES PROTECTION SERVICE, AND ALL OTHER AGENCIES WHICH MAY HAVE UNDERGROUND UTILITIES INVOLVING THIS PROJECT AND ARE NONMEMBERS OF THE OHIO UTILITIES PROTECTION SERVICE.
- EXISTING UNDERGROUND UTILITIES AND SERVICES ARE SHOWN IN THEIR APPROXIMATE LOCATIONS ACCORDING TO THE BEST INFORMATION AVAILABLE. THE LOCATIONS SHOWN ARE INTENDED ONLY AS A GUIDE AND CANNOT BE GUARANTEED ACCURATE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR:
  - CONTACTING THE INDIVIDUAL UTILITY OWNERS TEN DAYS PRIOR TO CONSTRUCTION AND ADVISING THEM OF THE WORK TO TAKE PLACE.
  - SELECTING THEIR AID IN LOCATING AND PROTECTING ANY UTILITY WHICH MAY INTERFERE WITH CONSTRUCTION.
  - EXCAVATING AND VERIFYING THE HORIZONTAL AND VERTICAL LOCATION OF EACH UTILITY.
  - ALL DAMAGE TO ANY EXISTING UTILITY.

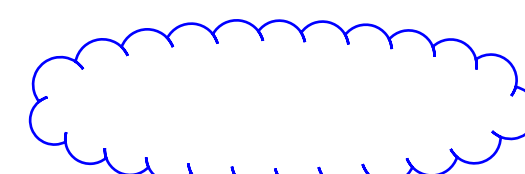
### GRADING & EROSION CONTROL NOTES

- THE NPDES PERMIT REQUIRES THAT ALL AREAS WHICH ARE AT OR NEAR FINAL GRADE, OR WHICH REMAIN DORMANT FOR MORE THAN 21 DAYS OR LONGER BE STABILIZED WITHIN 7 DAYS OF LAST ACTIVITY. VELOCITY DISSIPATION DEVICES SHOULD BE PLACED AT THE OUTFALL OF ALL DETENTION OR RETENTION STRUCTURES AND ALONG THE LENGTH OF ANY OUTFALL CHANNEL AS NECESSARY TO PROVIDE A NON-EROSIVE FLOW VELOCITY FROM THE STRUCTURE TO THE WATER COURSE.
- THE NPDES PERMIT REQUIRES THAT SEDIMENT AND EROSION CONTROLS BE INSPECTED EVERY 7 DAYS AND WITHIN 24 HOURS OF 0.5" OR GREATER RAINFALL. A WRITTEN LOG SHOULD INDICATE THE DATE OF INSPECTION NAME OF INSPECTOR, WEATHER CONDITIONS, OBSERVATIONS, ACTIONS TAKEN TO CORRECT ANY PROBLEMS AND THE DATE ACTION WAS TAKEN.
- SOLID, SANITARY AND TOXIC WASTE MUST BE DISPOSED OF IN A PROPER MANNER IN ACCORDANCE WITH STATE, LOCAL AND FEDERAL REGULATIONS.
- TEMPORARY SEEDING TYPES:
  - TALL FESCUE--SEED AT A RATE OF 50 lbs./ACRE (1 lb./100 SQ. FT.) AND MULCH WITH STRAW AT A RATE OF 2 TONS PER ACRE (90 lbs./1000 SQ. FT.). ESTABLISH BETWEEN MARCH 15 AND SEPTEMBER 30. COVER THE SEED 1/4-1/2 INCH BY RAKE OR SIMILAR TOOL. THIS IS THE MOST WIDELY USED AND BEST ADAPTED GRASS FOR STREAMBANK SEEDING. ITS HAS GOOD TOLERANCE TO WET SOILS AND FLOODING. IT IS ALSO WELL ADAPTED TO WELL DRAINED SOILS.
  - REED CANARYGRASS (PHALARIS ARUNDINACEA) PLUS TALL FESCUE--SEED THE REED CANARYGRASS AT A RATE OF 15 lbs./ACRE (1/3 lb./1000 SQ. FT.), PLUS 10 lbs./ACRE (1/4 lb./1000 SQ. FT.) OF TALL FESCUE. MULCH WITH STRAW AT A RATE OF 2 TONS/ACRE (90 lbs./1000 SQ. FT.). THIS MIXTURE SHOULD ONLY BE SEEDING FROM MARCH 1 TO MAY 15, OR AUGUST 1 TO SEPTEMBER 30. COVER THE SEED 1/4-1/2 INCH BY RAKING OR SIMILAR TOOL. THIS MIXTURE IS ADAPTABLE TO SOILS THAT ARE VERY NET AS WELL AS WELL DRAINED SOIL CONDITIONS. REED CANARYGRASS CAN WITHSTAND EXTENDED PERIODS OF FLOODING. IT IS EXCELLENT FOR EROSION CONTROL. REED CANARYGRASS CAN ALSO BE ESTABLISHED BY SOO STRIPS, USING RHIZOMES, OR FRESHLY CUT CULMS. THE LOCAL CONSERVATION SERVICE OFFICE CAN PROVIDE THE SPECIFIC DETAILS REQUIRED TO USE ONE OF THE ALTERNATE ESTABLISHMENT METHODS.
- FINAL SITE STABILIZATION IS CONSIDERED ACHIEVED ONCE ALL TEMPORARY EROSION AND SEDIMENT CONTROL PRACTICES ARE REMOVED AND DISPOSED OF AND ALL TRAPPED SEDIMENT HAS BEEN PERMANENTLY STABILIZED TO PREVENT FURTHER EROSION.
- ALL TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES WILL BE DISPOSED OF AFTER FINAL SITE STABILIZATION IS ACHIEVED OR AFTER THE TEMPORARY MEASURES ARE NO LONGER NEEDED. TRAPPED SEDIMENT AND OTHER DISTURBED SOIL AREAS RESULTING FROM THE DISPOSITION OF TEMPORARY MEASURES WILL BE PERMANENTLY STABILIZED TO PREVENT EROSION AND SEDIMENTATION.
- ALL TEMPORARY AND PERMANENT EROSION AND SEDIMENT CONTROL MEASURES WILL BE MAINTAINED AND REPAIRED AS NEEDED TO ASSURE CONTINUED PERFORMANCE OF THEIR INTENDED FUNCTION.
- DANDY BAGS TO BE USED AT ALL STORM INLETS FOR EROSION CONTROL.
- TEMPORARILY GRADE LOW AREA TO DRAIN UNTIL FUTURE STORM IS CONSTRUCTED.

### UTILITY NOTES

- ROOF DRAINS, FOUNDATION DRAINS AND ALL OTHER CLEAR WATER CONNECTIONS TO THE SANITARY SEWER SYSTEM ARE PROHIBITED.
- THE CONTRACTOR SHALL VERIFY LOCATION AND ELEVATION OF ALL UTILITIES PRIOR TO THE BEGINNING OF CONSTRUCTION OR EARTH MOVING OPERATIONS.
- ALL STORM STRUCTURES ARE ODOT TYPES UNLESS OTHERWISE INDICATED.
- STORM SEWER PIPE LABELED "STM" SHALL BE ONE OF THE FOLLOWING: PVC SDR-35, PVC PROFILE PIPE PER ODOT ITEM 707.33, OR HIGH DENSITY POLYETHYLENE PER ODOT ITEM 707.33. STORM SEWER PIPE LABELED "RCP" SHALL BE REINFORCED CONCRETE PIPE, ODOT ITEM 706.02 CLASS IV. ALL STORM IS TO BE INSTALLED PER ODOT ITEM 603, TYPE A.
- STEPS SHALL BE PROVIDED IN ALL CATCH BASINS AND MANHOLES OVER 4' DEEP.
- CONTRACTOR SHALL SECURE ALL PERMITS AND FURNISH ALL DRAWINGS REQUIRED FOR UTILITY TAPS PRIOR TO STARTING CONSTRUCTION.
- PROVIDE MANUFACTURERS RECOMMENDATION COVER OVER TOP OF STORM PIPE DURING CONSTRUCTION, UNTIL PAVING OPERATIONS BEGIN.
- ITEM NUMBERS REFER TO THE OHIO DEPARTMENT OF TRANSPORTATION CONSTRUCTION AND MATERIAL SPECIFICATIONS, AND ALL NEW CONSTRUCTION WORK SHALL BE DONE ACCORDING TO SAID SPECIFICATIONS AND IN ACCORDANCE WITH APPLICABLE STANDARDS OUTLINED IN THE "BUTLER COUNTY SUBDIVISION REGULATIONS" WHEN IN CONFLICT, THE BUTLER COUNTY REQUIREMENTS SHALL PREVAIL.
- SITE UTILITY CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING REQUIRED VERTICAL SEPARATION BETWEEN UTILITIES BY VARYING DEPTH OF UNDERGROUND ELECTRIC, TELEPHONE, WATER AND GAS.
- PRIVATE WATERLINE FROM PUBLIC MAIN TO METER PIT TO BE CLASS 55 D.I. PIPE WITH PE WRAP. ALL OTHER PRIVATE WATERLINE (AFTER METER PIT) TO BE AS NOTED ON THE UTILITY PLAN.
- WATERLINE SHALL HAVE A MINIMUM OF 4' OF COVER.
- A MINIMUM OF 1' 5" OF VERTICAL CLEARANCE SHALL BE MAINTAINED BETWEEN UTILITIES AT ALL TIMES.
- STORM PIPE TO HAVE AN "N" VALUE OF 0.013 OR LESS.
- FIRE HYDRANT ASSEMBLY INCLUDES FIRE HYDRANT AND 6" WATER VALVE.
- PROVIDE UNDERGROUND FLUSH CERTIFICATES PER NFPA.
- SANITARY SEWER SHALL BE 8" PVC-SDR 35 OR APPROVED EQUAL INSTALLED AT A MINIMUM GRADE OF 0.50% UNLESS OTHERWISE NOTED. SANITARY SEWER SHALL BE INSTALLED AT A MINIMUM DEPTH OF FOUR FEET (4') UNLESS OTHERWISE NOTED. A MINIMUM OF 18" CLEARANCE SHALL BE MAINTAINED AT ALL WATERLINE CROSSINGS. SANITARY SEWER JOINTS SHALL CONFORM TO ASTM D-321.
- SANITARY LATERALS SHALL BE 8" PVC-SDR 21 OR APPROVED EQUAL INSTALLED AT A MINIMUM SLOPE OF 1/8" PER FOOT (1.04%) UNLESS OTHERWISE NOTED. A MINIMUM OF 18" CLEARANCE SHALL BE MAINTAINED AT ALL WATERLINE CROSSINGS. SANITARY SEWER JOINTS SHALL CONFORM TO ASTM D-321.

Sheet Index	
Sheet Number	Sheet Title
C000	COVER SHEET
C001	GENERAL DETAILS
C002	UTILITY DETAILS
C100	EXISTING AND DEMOLITION PLAN
C200	OVERALL LOCATION PLAN
C201	ENLARGED LOCATION PLAN
C202	ENLARGED LOCATION PLAN
C300	OVERALL UTILITY PLAN
C301	ENLARGED UTILITY PLAN
C302	ENLARGED UTILITY PLAN
C350	UTILITY PROFILES
C351	UTILITY PROFILES
C400	GRADING AND EROSION CONTROL PLAN
C401	ENLARGED GRADING PLAN
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C410	HANDICAP RAMP GRADING DETAILS
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L104	PLANT SCHEDULE & DETAILS
L200	IRRIGATION ZONE PLAN
L300	SPECIFICATIONS
L301	SPECIFICATIONS
L302	SPECIFICATIONS



NOTE: UNDERGROUND UTILITIES ARE PLOTTED FROM A COMPILATION OF AVAILABLE RECORD INFORMATION AND SURFACE INDICATIONS OF UNDERGROUND STRUCTURES AND MAY NOT BE INCLUSIVE. PRECISE LOCATIONS AND THE EXISTENCE OR NON-EXISTENCE OF UNDERGROUND UTILITIES CANNOT BE VERIFIED. PLEASE NOTIFY THE OHIO UTILITY PROTECTION SERVICE AT 1-800-362-2764 BEFORE ANY PERIOD OF EXCAVATION OR CONSTRUCTION ACTIVITY.



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BRATE FARM  
BUILDINGS 5, 6, & 7

Brate Road West Chester, OH 45069

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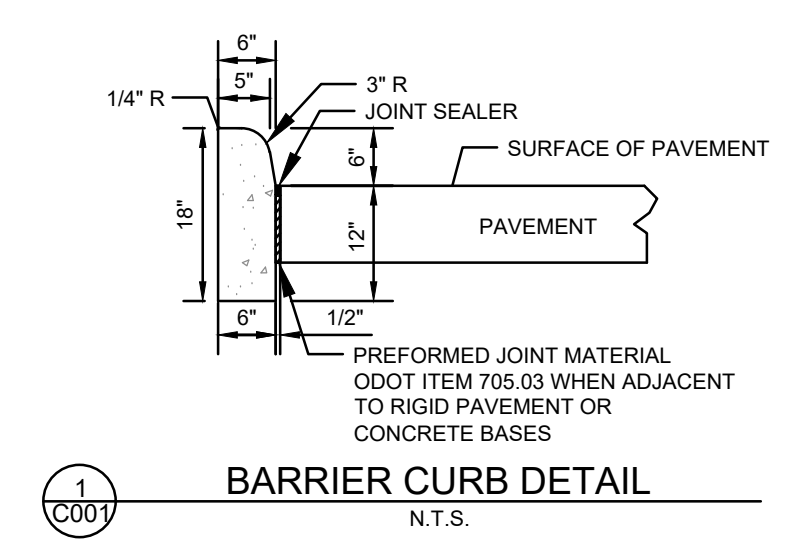
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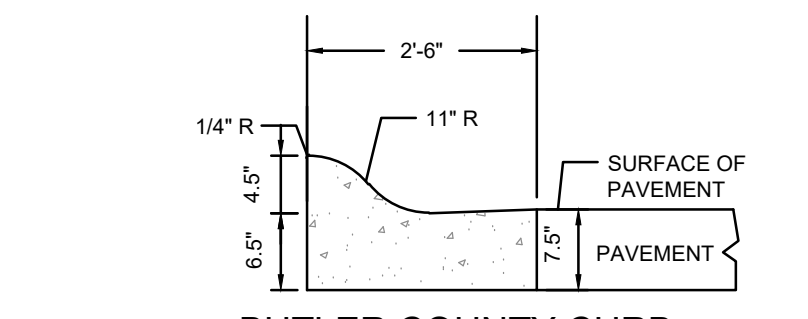
C001  
GENERAL DETAILS



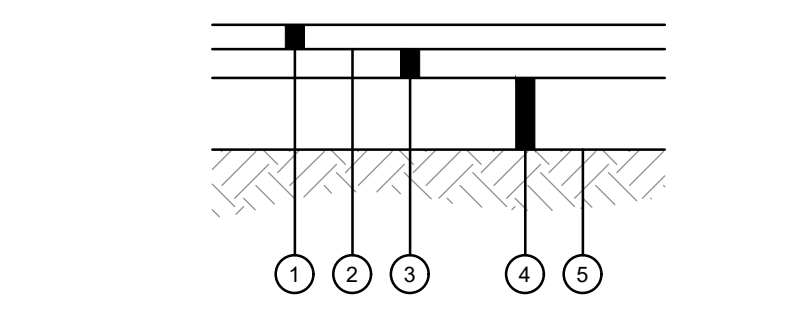
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1 BARRIER CURB DETAIL  
N.T.S.

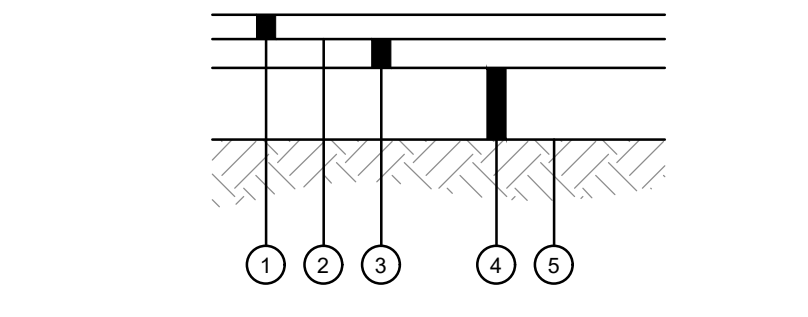


2 BUTLER COUNTY CURB AND GUTTER STANDARD C-1 DETAIL  
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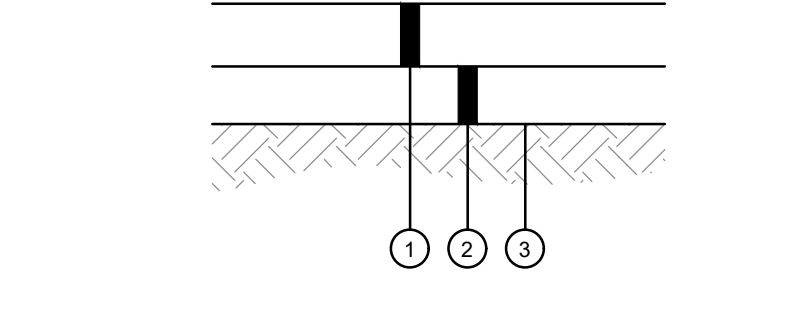
- 1 1/2" ODOT ITEM 441 ASPHALT CONCRETE SURFACE COURSE, TYPE 1, PG64-22
- 2 ODOT ITEM 407 TACK COAT. APPLY IF TIME BETWEEN ASPHALT LIFTS EXCEEDS 30 DAYS
- 3 2 1/2" ODOT ITEM 441 ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, PG64-22 (2" IF STABILIZED SUBGRADE)
- 4 6" ODOT ITEM 304 AGGREGATE BASE
- 5 SUBGRADE COMPACTION. REFERENCE ODOT ITEM 204. EARTHWORK SPECIFICATION 312000 AND SOILS REPORT

3 LIGHT DUTY ASPHALT PAVEMENT DETAIL  
N.T.S.  
NOTE: PAVEMENT SECTION DESIGN PROVIDED BY OWNER



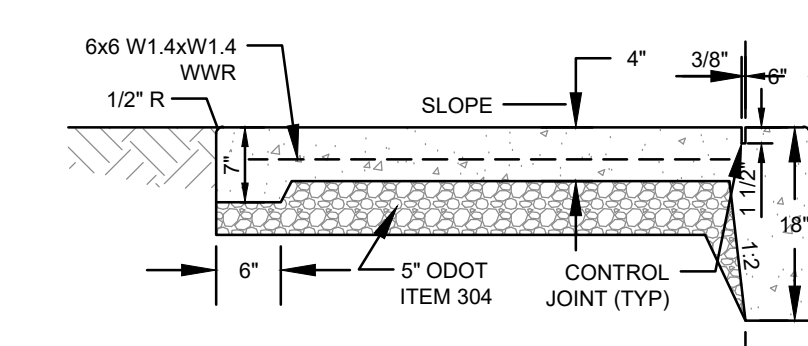
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- 2 ODOT ITEM 407 TACK COAT. APPLY IF TIME BETWEEN ASPHALT LIFTS EXCEEDS 30 DAYS
- 3 5" ODOT ITEM 441 ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, PG64-22 (6" IF STABILIZED SUBGRADE)
- 4 8" ODOT ITEM 304 AGGREGATE BASE
- 5 SUBGRADE COMPACTION. REFERENCE ODOT ITEM 204. EARTHWORK SPECIFICATION 312000 AND SOILS REPORT

4 HEAVY DUTY ASPHALT PAVEMENT DETAIL  
N.T.S.  
NOTE: PAVEMENT SECTION DESIGN PROVIDED BY OWNER



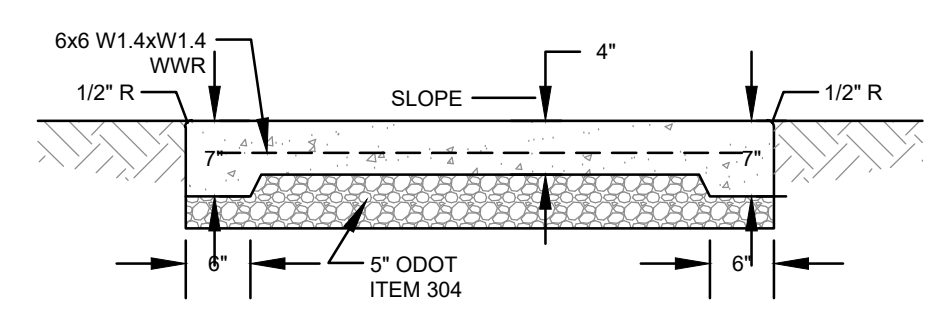
- 1 9" ODOT ITEM 452 NONREINFORCED PORTLAND CEMENT CONCRETE PAVEMENT (6" IF STABILIZED SUBGRADE)
- 2 4" ODOT ITEM 304 AGGREGATE BASE
- 3 SUBGRADE COMPACTION. REFERENCE ODOT ITEM 204. EARTHWORK SPECIFICATION 312000 AND SOILS REPORT

5 HEAVY DUTY CONCRETE PAVEMENT DETAIL  
N.T.S.  
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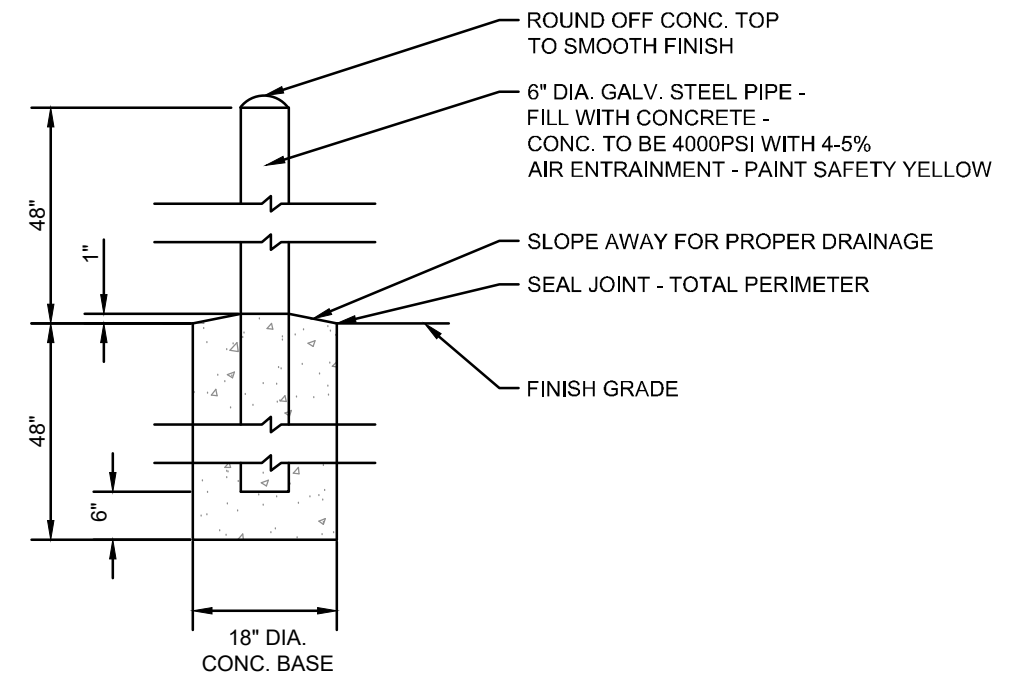
- NOTES:
1. INSTALL EXPANSION JOINTS AT 30' OC MAXIMUM AND WHERE SLAB ABUTS STRUCTURES. WHERE NEW WALK ABUTS ADJOINING WALK, SAWCUT EXISTING WALK TO NEAREST JOINT AND INSTALL EXPANSION JOINT. EXPANSION JOINTS SHALL BE 1/2" WIDE BY DEPTH OF SLAB. SEAL ALL EXPANSION JOINTS.
  2. INSTALL CONTROL JOINTS AT 6' OC MAXIMUM AND AT 6" BEHIND INTEGRAL CURB. CONTROL JOINTS SHALL BE 3/8" WIDE BY 1 1/2" DEEP AND TOOLED. SAWED JOINTS ARE NOT PERMITTED.
  3. WALK SHALL HAVE A MINIMUM CROSS SLOPE OF 1.00%, MAXIMUM CROSS SLOPE OF 2.00%.
  4. WATER AND UTILITY BOXES IN THE WALK AREA SHALL BE ADJUSTED FLUSH WITH THE FINAL SURFACE.
  5. REFER TO ARCHITECTURAL PLANS FOR ADDITIONAL DETAIL AT ALL BUILDING DOORS.

6 EXTERIOR CONCRETE SLAB WALK WITH INTEGRAL CURB DETAIL  
N.T.S.  
NOTE: PAVEMENT SECTION DESIGN PROVIDED BY OWNER

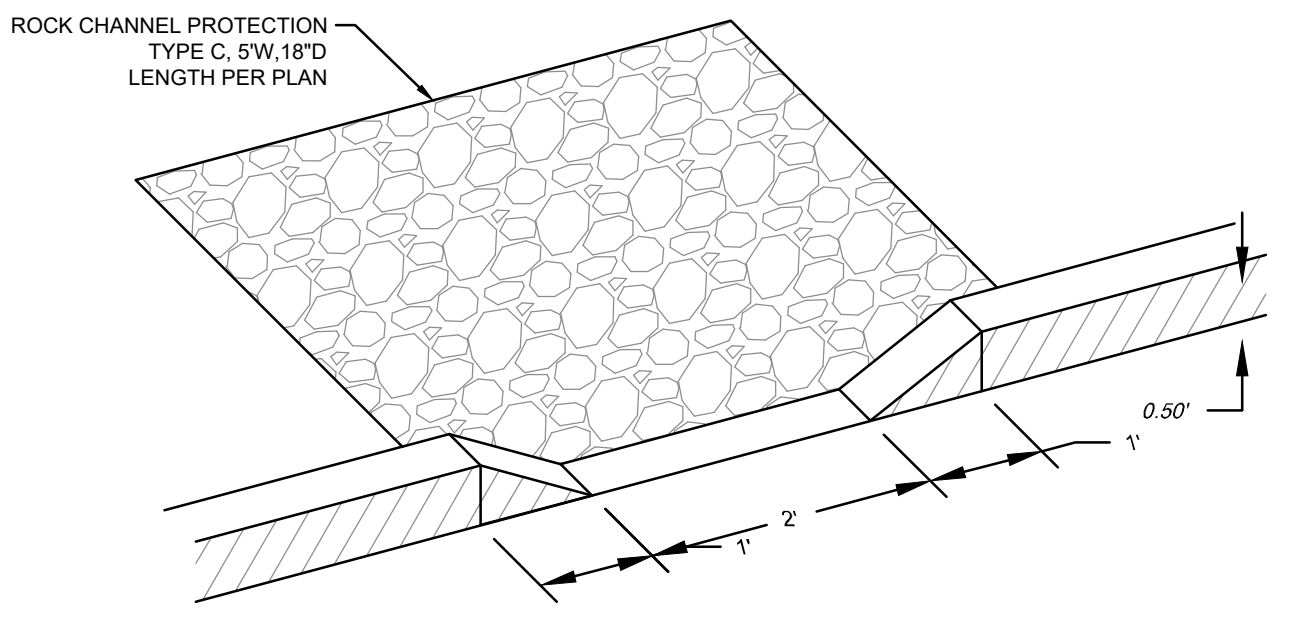


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  5. REFER TO ARCHITECTURAL PLANS FOR ADDITIONAL DETAIL AT ALL BUILDING DOORS.

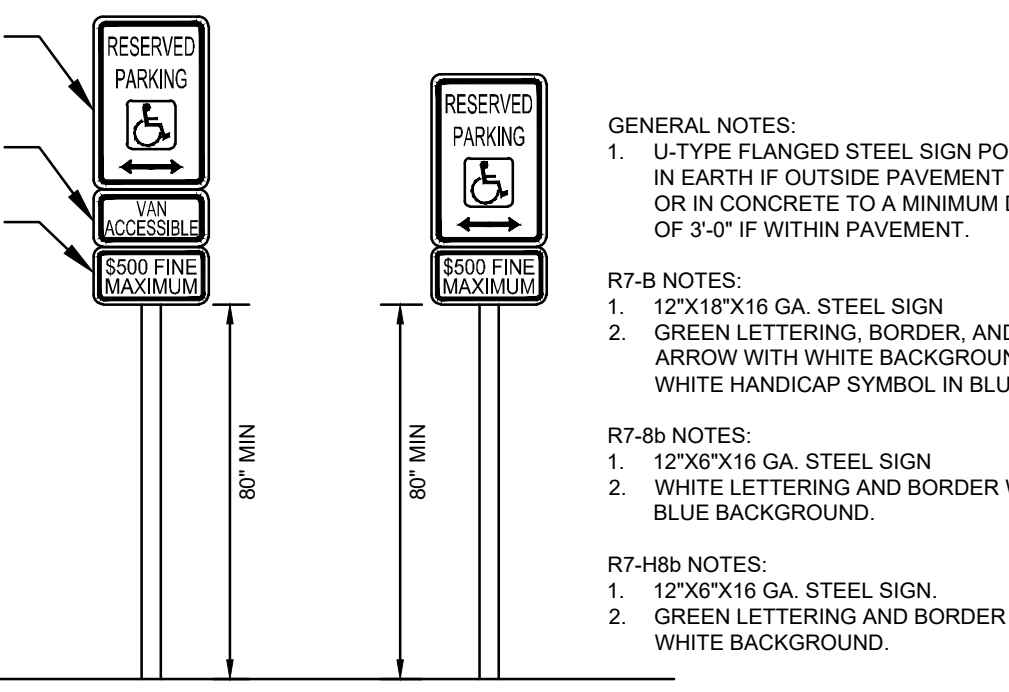
7 EXTERIOR CONCRETE SLAB WALK DETAIL  
N.T.S.  
NOTE: PAVEMENT SECTION DESIGN PROVIDED BY OWNER



8 PIPE BOLLARD DETAIL  
N.T.S.

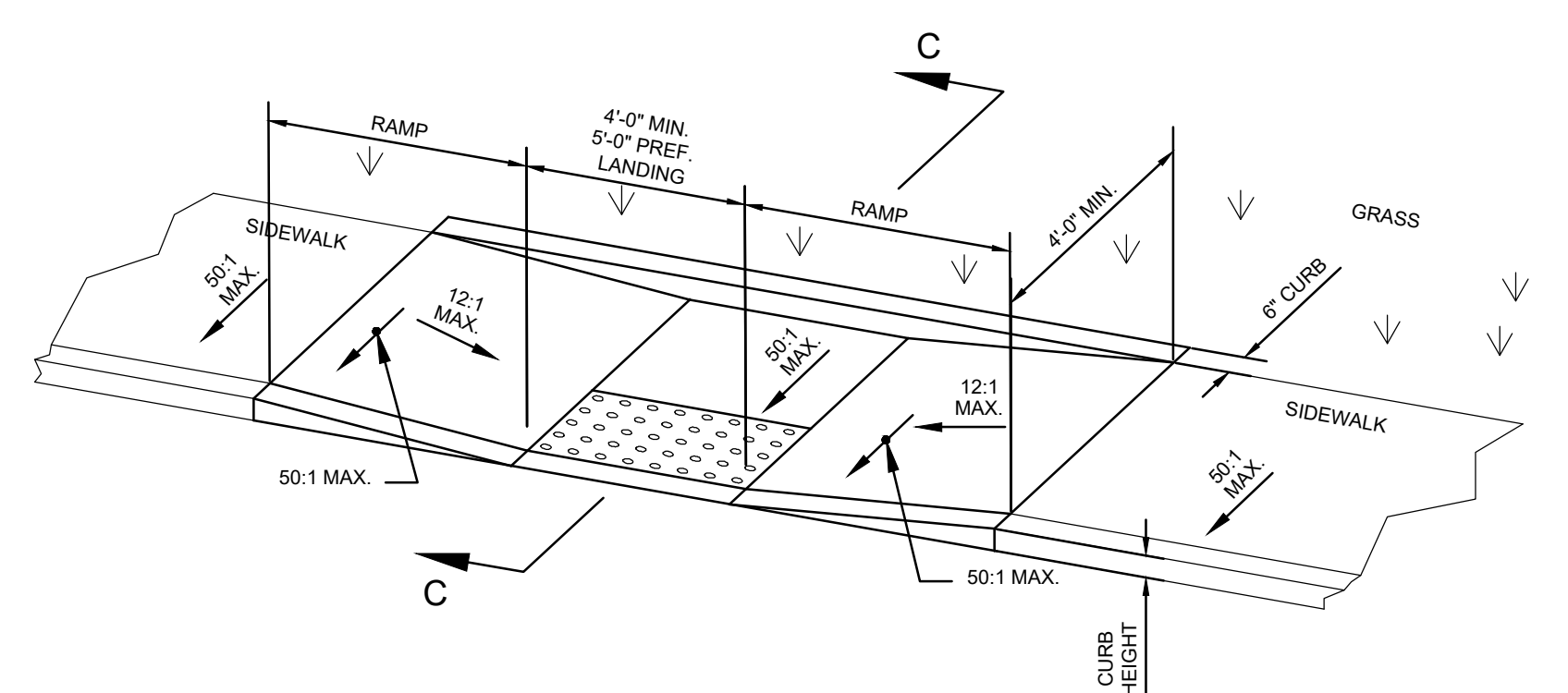


9 DRAINAGE CURB CUT DETAIL  
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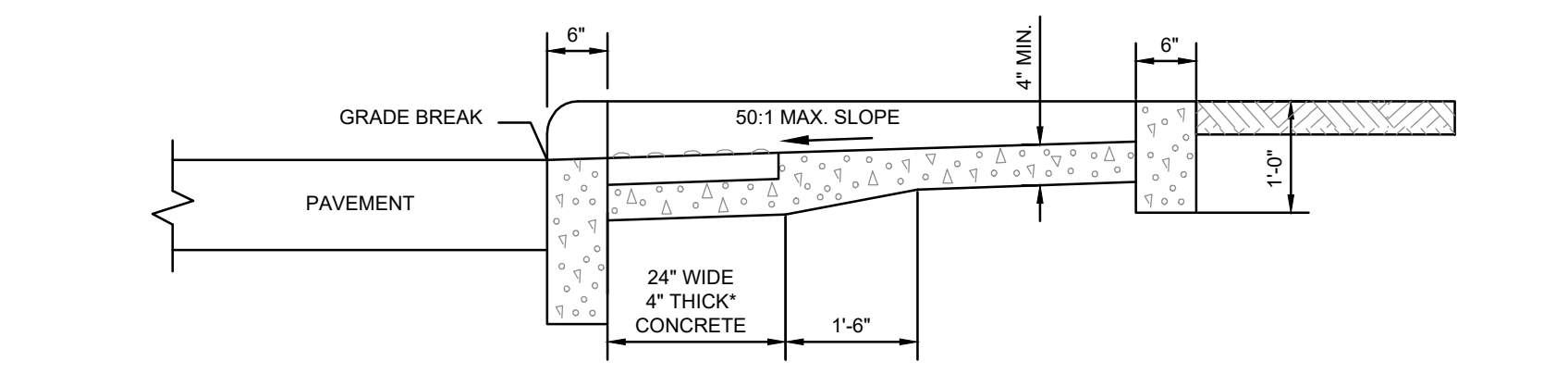


- GENERAL NOTES:
1. U-TYPE FLANGED STEEL SIGN POST SET IN EARTH IF OUTSIDE PAVEMENT EDGE, OR IN CONCRETE TO A MINIMUM DEPTH OF 3'-0" IF WITHIN PAVEMENT.
  1. 12"X18"X16 GA. STEEL SIGN
  2. GREEN LETTERING, BORDER, AND ARROW WITH WHITE BACKGROUND. WHITE HANDICAP SYMBOL IN BLUE BOX.
- R7-8b NOTES:
1. 12"X18"X16 GA. STEEL SIGN
  2. WHITE LETTERING AND BORDER WITH BLUE BACKGROUND.
- R7-H8b NOTES:
1. 12"X18"X16 GA. STEEL SIGN
  2. GREEN LETTERING AND BORDER WITH WHITE BACKGROUND.

10 ACCESSIBLE PARKING SIGN DETAIL  
N.T.S.

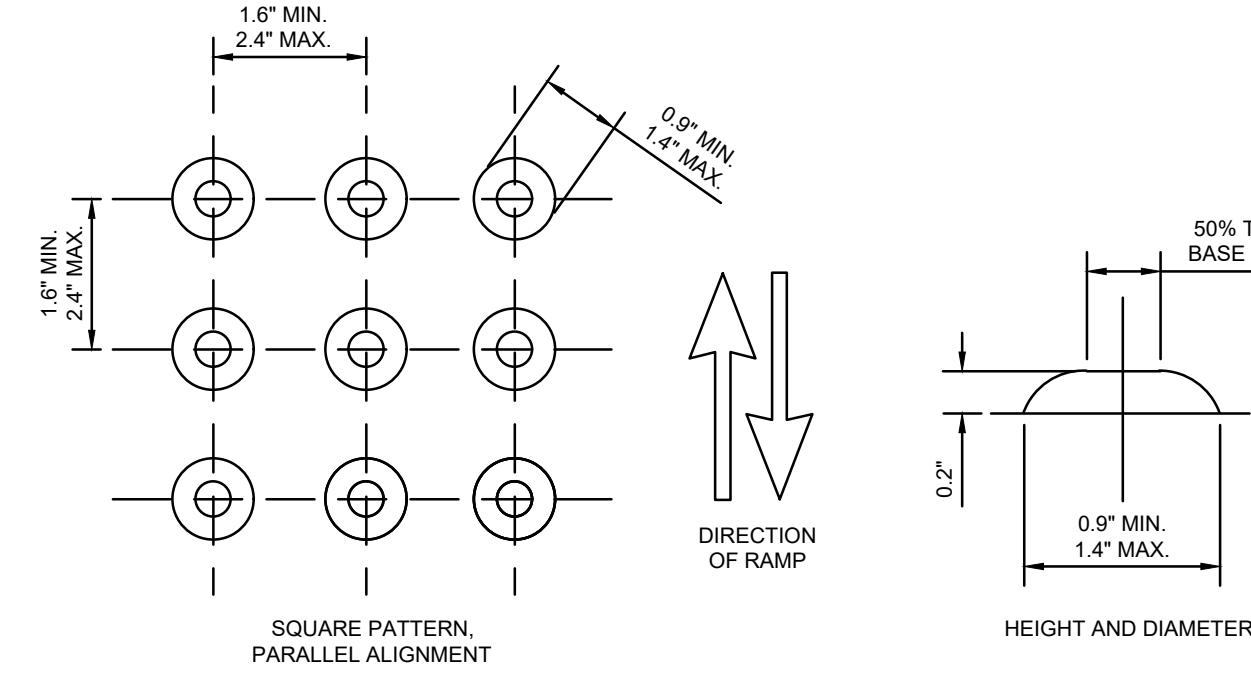


11 CURB RAMP DETAIL - DOUBLE SIDED PARALLEL  
N.T.S.

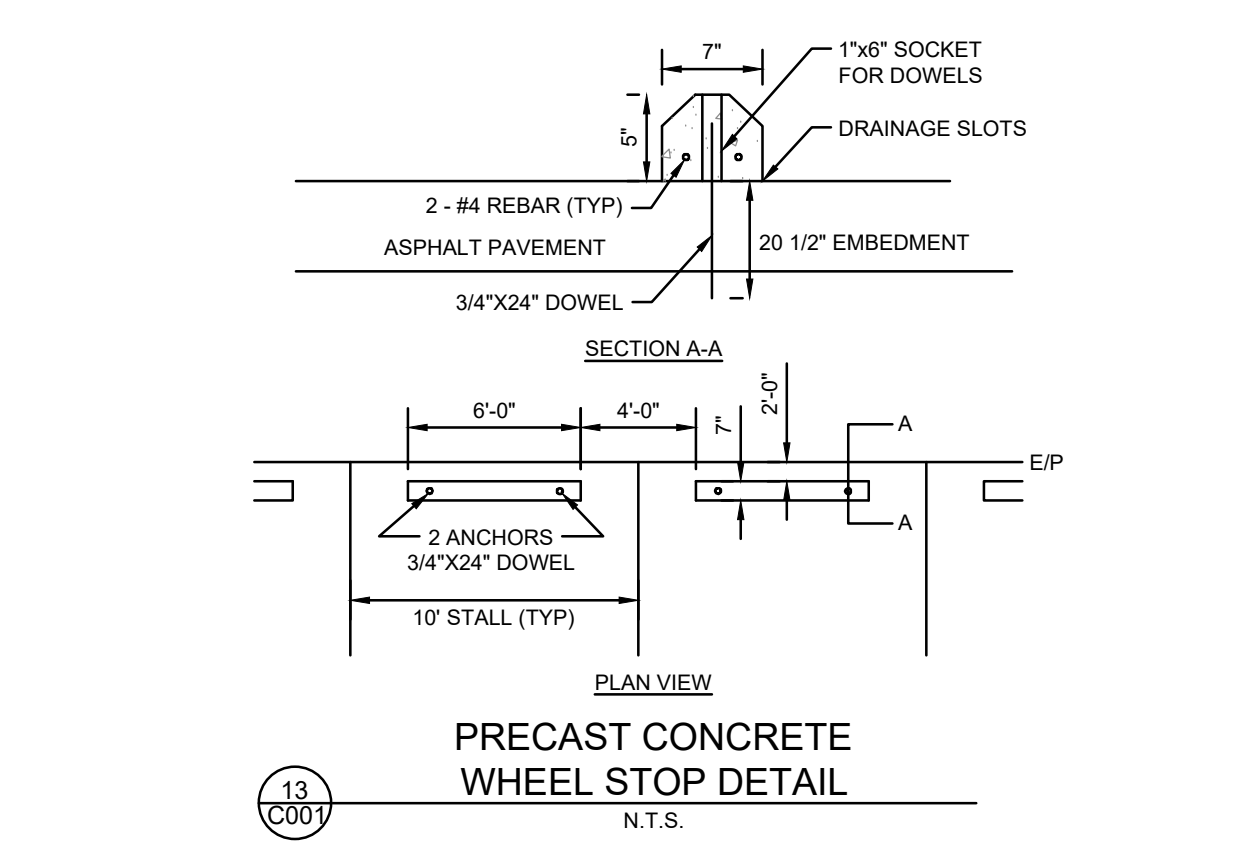


12 DETECTABLE WARNINGS DETAIL  
N.T.S.

- NOTES:
- GENERAL
1. DETECTABLE WARNINGS ARE A DISTINCTIVE SURFACE PATTERN OF TRUNCATED DOMES WHICH ARE DETECTABLE BY CANE OR UNDERFOOT TO ALERT PEOPLE WITH VISION IMPAIRMENTS OF THEIR APPROACH TO STREETS AND HAZARDOUS DROP-OFFS.
- PLACEMENT
2. DETECTABLE WARNINGS ARE TO BE INSTALLED AT ANY LOCATION WHERE PEDESTRIANS MIGHT CROSS PATHS WITH VEHICULAR TRAFFIC LANES, SUCH AS THE BASE OF CURB RAMPS OR AT BLENDED CURBS. A 24" STRIP OF DOMES IS TO BE INSTALLED FOR THE FULL WIDTH OF THE RAMP OR WALK.
  3. THE DEPTH OF CONCRETE UNDERNEATH DETECTABLE WARNING PRODUCTS SHALL BE A MINIMUM OF 4".
  4. COLOR OF THE DETECTABLE WARNINGS SHOULD CONTRAST WITH SURROUNDING CONCRETE WALK AND RAMP. BLACK IS NOT AN ACCEPTABLE COLOR. APPROVED PRODUCTS AND GUIDANCE ON COLOR MAY BE FOUND ON THE ODOT OFFICE OF ROADWAY ENGINEERING SERVICE'S DETECTABLE WARNINGS APPROVED LIST. INSTALL PRODUCTS AS PER MANUFACTURER'S PRINTED INSTRUCTIONS.

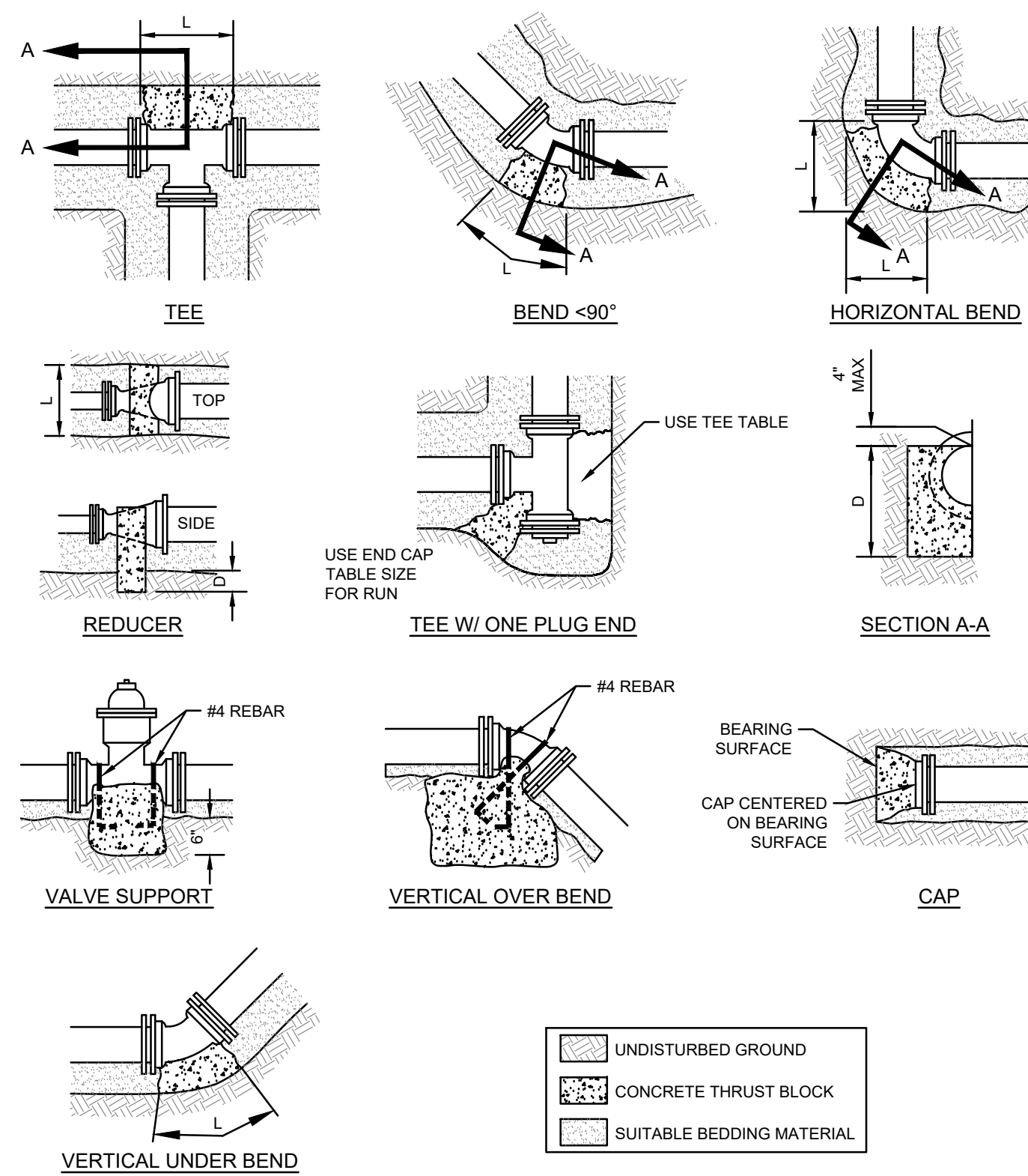


13 FLOOD ROUTE SPILLWAY DETAIL  
N.T.S.



14 PRECAST CONCRETE WHEEL STOP DETAIL  
N.T.S.

C001  
GENERAL DETAILS



**END CAP BLOCKING**

SIZE	2"	4"	6"	8"	12"	16"
BLOCKING AREA	6'x6'	9'x9'	13'x13'	17'x17'	24'x24'	33'x33'

**BLOCKING FOR TEES**

R	4"			6"			8"			12"			16"		
	L'	D'	Vol.	L'	D'	Vol.	L'	D'	Vol.	L'	D'	Vol.	L'	D'	Vol.
4"	11	8	0.8	18	12	1.9	23	16	3.5	38	22	8.7	49	30	13.6

**SIZE OF CONCRETE BLOCKING FOR VERTICAL OVERBEND**

PIPE SIZE	SIZE OF BLOCK	VOLUME Cu. Yd.
4"	1.5x1.5x1.5	0.13
6"	2.0x2.0x2.0	0.5
8"	3x3x3	1
12"	3.5x3.5x3.5	1.5
16"	4.5x4.5x4.5	3.5

**BLOCKING FOR REDUCERS**

PIPE SIZE	4"		6"		8"		12"		16"	
	L'	D'	L'	D'	L'	D'	L'	D'	L'	D'
4"	12	6	12	6	12	6	12	6	12	6

**BLOCKING FOR HORIZONTAL BENDS AND VERTICAL UNDERBENDS**

PIPE SIZE	22.5°			45°			90°		
	L'	D'	Vol.	L'	D'	Vol.	L'	D'	Vol.
4"	5	4	0.2	9	5	0.4	14	5	0.6

**VALVE SUPPORTS**

PIPE SIZE	WIDTH	Vol.
4"	16"	0.3
6"	17"	0.4
8"	20"	0.4
12"	24"	0.5
16"	30"	0.5

- NOTES:**
- CONCRETE SHALL NOT LAP ONTO BOLTS.
  - EMBED REINFORCING 12" MIN. INTO CONCRETE HOOK ENDS.
  - BACKER DESIGNED FOR 3000 PSF SOIL BEARING. BASE AREA OF CONCRETE BLOCKING TO BE DETERMINED BY PIPE SIZE AND PRESSURE IN PIPE AND PERMISSIBLE BEARING CAPACITY OF SOIL. NO EXTRA PAYMENT WILL BE MADE FOR CONCRETE WHERE IT IS NECESSARY TO USE MORE THAN IS SHOWN IN TABLE.

**CONCRETE THRUST BLOCKING DETAIL**  
N.T.S.

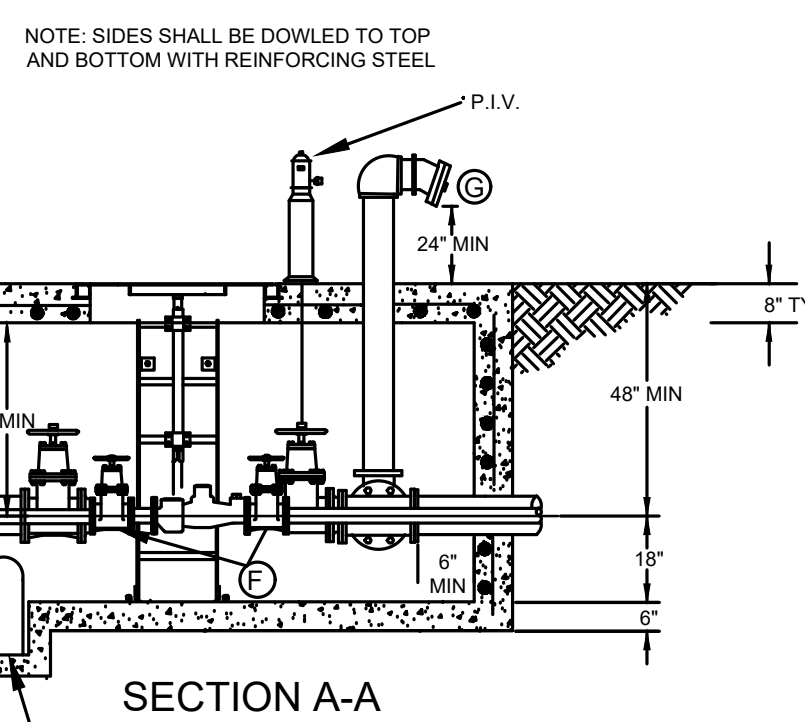
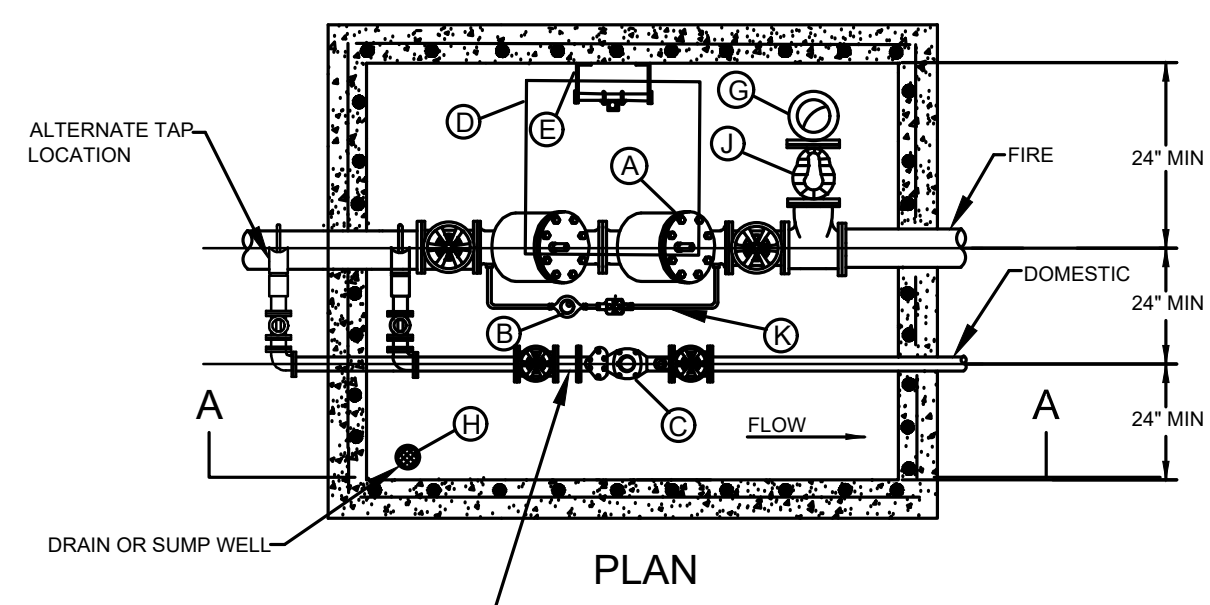
10  
C002

**OMNI METER INSTALLATION INSTRUCTIONS**

- WHEN INSTALLING SENSUS OMNI METERS WITH THE STRAINER, A MINIMUM OF 2 1/2" PIPE DIAMETERS OF STRAIGHT RUN OF PIPE OR EQUIVALENT FULL OPEN COMPONENTS IS REQUIRED UPSTREAM AND DOWNSTREAM OF THE METER OR STRAINER FLANGES. FULL OPEN FLOW COMPONENTS MAY CONSIST OF STRAIGHT PIPE, FULL OPEN GATE VALVES, BYPASS TEES AND CONCENTRIC REDUCERS (1 NOMINAL PIPE SIZE REDUCTION ONLY). FOR ALL OTHER INSTALLATION CONFIGURATIONS, A MINIMUM OF 5 PIPE DIAMETERS OF STRAIGHT RUN IS REQUIRED UPSTREAM.
  - GATE VALVES LOCATED IMMEDIATELY UPSTREAM OR DOWNSTREAM ARE ACCEPTABLE, PROVIDED THEY ARE FULLY OPEN DURING METER SERVICE AND ARE NOT USED TO THROTTLE FLOW RATES THROUGH THE METER.
  - INSTALL NONCONCENTRIC REDUCERS, CHECK VALVES, BACKFLOW PREVENTERS, PRESSURE REDUCING VALVES, THROTTLING DEVICES, ALTITUDE VALVES NO CLOSER THAN 4 PIPE DIAMETERS DOWNSTREAM OF THE METER. ALWAYS AVOID PLACING ANY OF THESE DEVICES UPSTREAM OF ANY METER SINCE THE PLACEMENT WILL PUT THE METER IN A LOW PRESSURE ZONE, THUS POSSIBLY CAUSING INCONSISTENT ACCURACY AND REDUCED LONGEVITY.
- NOTE: OMNI METERS CAN BE INSTALLED VERTICALLY OR ROTATED ON THE BOLT PATTERN IN ANY ORIENTATION.

**METER SIZE & TYPE**

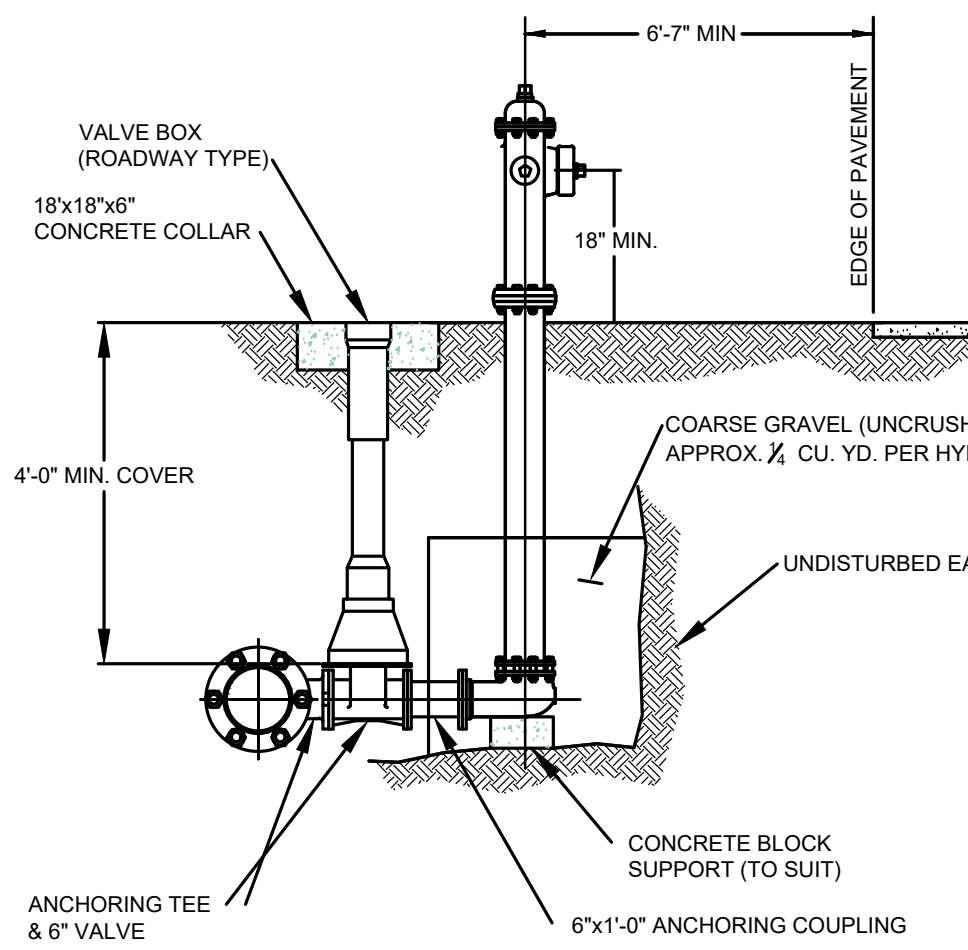
MIN.	C
1 1/2" T2 OMNI	13"
1 1/2" C2 OMNI	13"
2" T2 OMNI	17"
2" C2 OMNI	15 1/4"
3" T2 OMNI	19"
3" C2 OMNI	17"
4" T2 OMNI	22"
4" C2 OMNI	20"
6" T2 OMNI	27"
6" C2 OMNI	24"



- FIRE SERVICE BACKFLOW PREVENTION DEVICE, WATTS #709-502A, AMES #000 DCCDA, OR EQUAL.
- BY-PASS METER 3/4" OR 1" PURCHASED FROM BUTLER CO.) NOTE: BY-PASS LINE REQUIRES A BACKFLOW DEVICE SIMILAR TO THE WATTS #709.
- DOMESTIC METER FURNISHED BY BUTLER CO. NOTE: 3" AND LARGER METERS SHALL BE INSTALLED WITH FLANGED CLASS 30 DUCTILE IRON PIPE, 2" AND LESS SHALL BE "C" COPPER.
- LID: BILCO MODEL #J-4AL, OR HALLIDAY MODEL #W1S3636, OR APPROVED EQUAL.
- ALUMINUM LADDER: OSHA APPROVED HALLIDAY SERIES L-1B WITH SERIES L-1E SAFETY POST, OR APPROVED EQUAL.
- DOMESTIC INLET AND OUTLET CONNECTIONS SEE CHART ABOVE.
- 7" LOCKING STORZ ON 30° ELBOW TURNED DOWN SECURED SIGN INDICATING "FIRE DEPT. CONNECTION" (FDC) WITH ADDRESS IT PROTECTS FIXED TO THE FDC FACING STREET.
- RUMP PUMP (REQUIRED IF GRAVITY DRAIN IS NOT POSSIBLE), EXTEND DISCHARGE PIPING AWAY FROM TOP OF VAULT.
- CHECK VALVE WITH AUTOMATIC BALL DRIP.
- CONTRACTOR PLUMBER TO VERIFY LAYOUT LENGTH OF BACKFLOW DEVICE, VALVES, METERS ETC.

**BUTLER COUNTY WATER AND SEWER DUAL SERVICE SETTING W/ BACKFLOW DEVICE**  
NOT TO SCALE

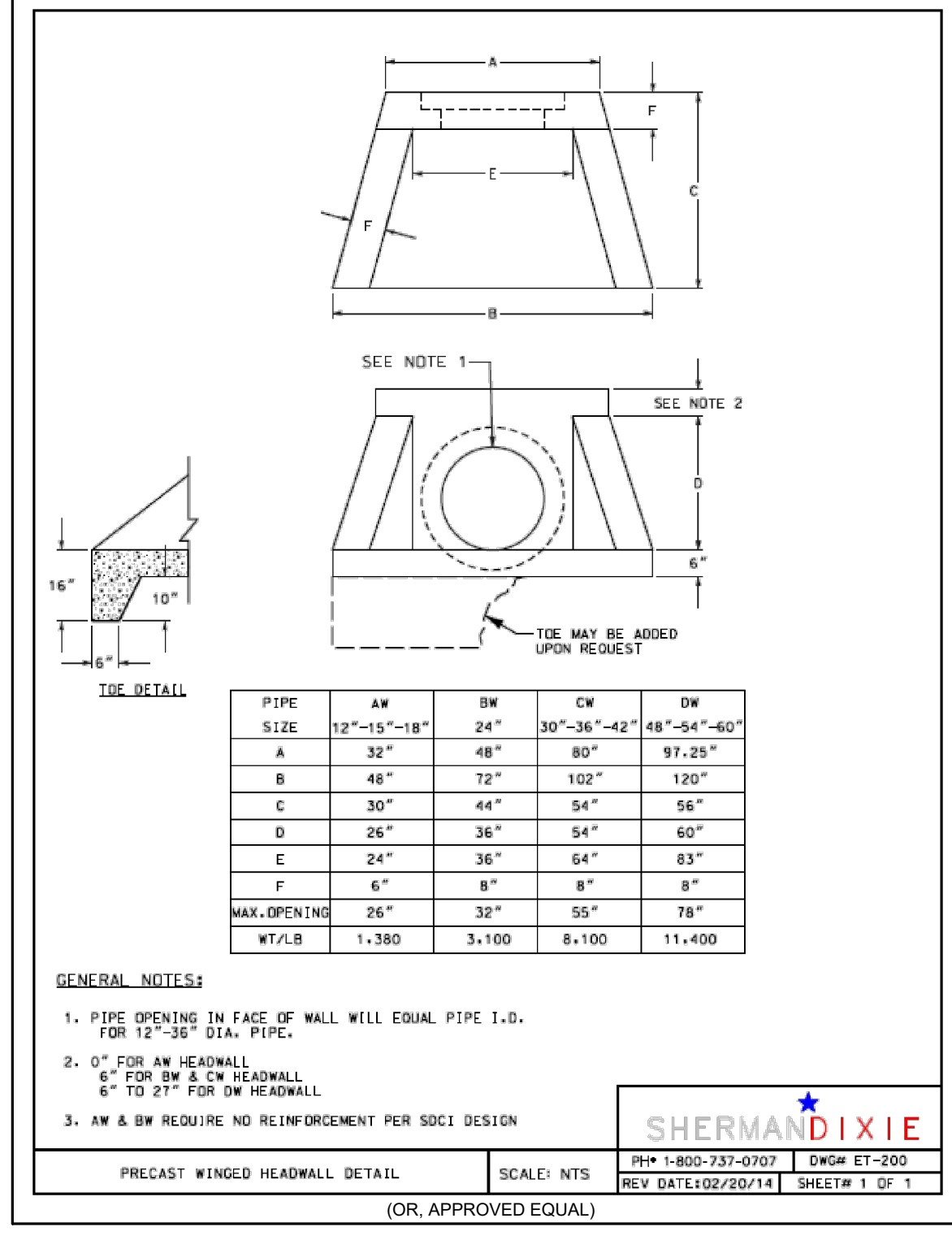
11  
C002



- NOTES:**
- VERIFY LOCATION OF F.H. RELATIVE TO WATER MAIN ON PLANS.
  - CHECK STREET DETAILS FOR RELATIONSHIP BETWEEN MAIN, STREET AND F.H.
  - PER FIRE DEPARTMENT, FIRE HYDRANTS TO BE EQUIPPED WITH 5" LOCKING STORZ FITTINGS.

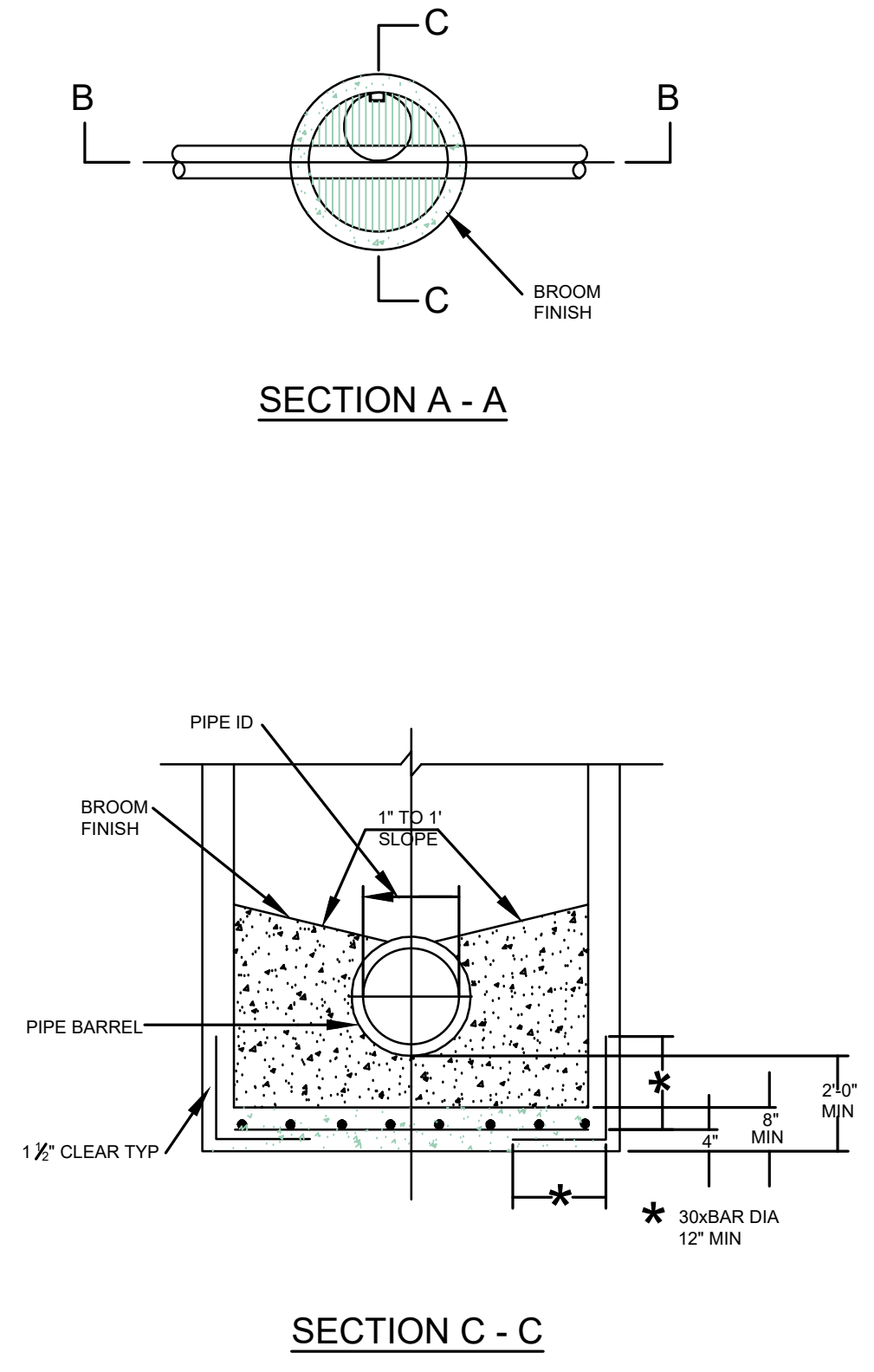
**BUTLER COUNTY WATER AND SEWER TYPICAL FIRE HYDRANT INSTALLATION**  
NOT TO SCALE

12  
C002



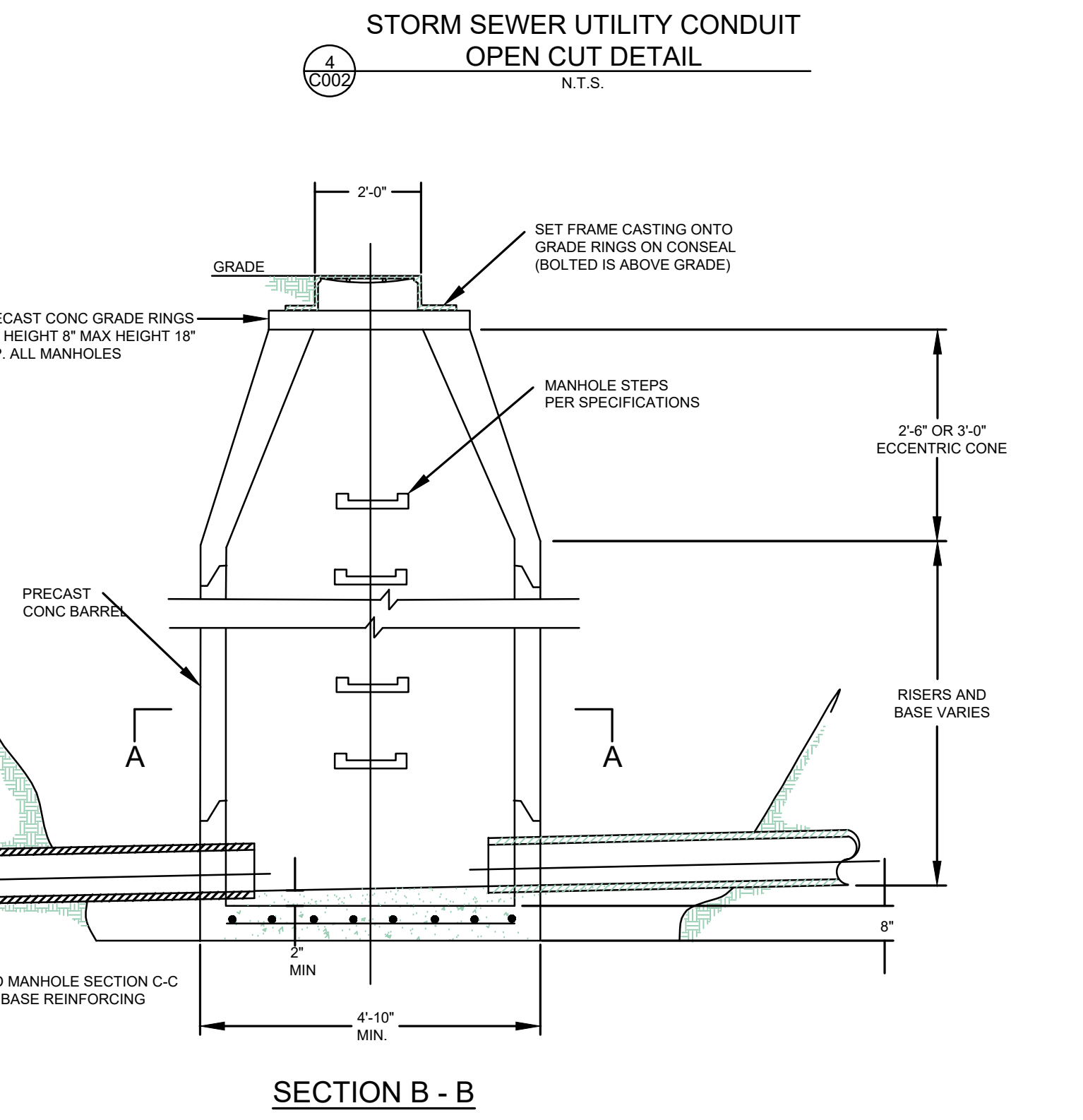
**PRECAST SLOPED & FLARED HEADWALL DETAIL**  
N.T.S.

5  
C002



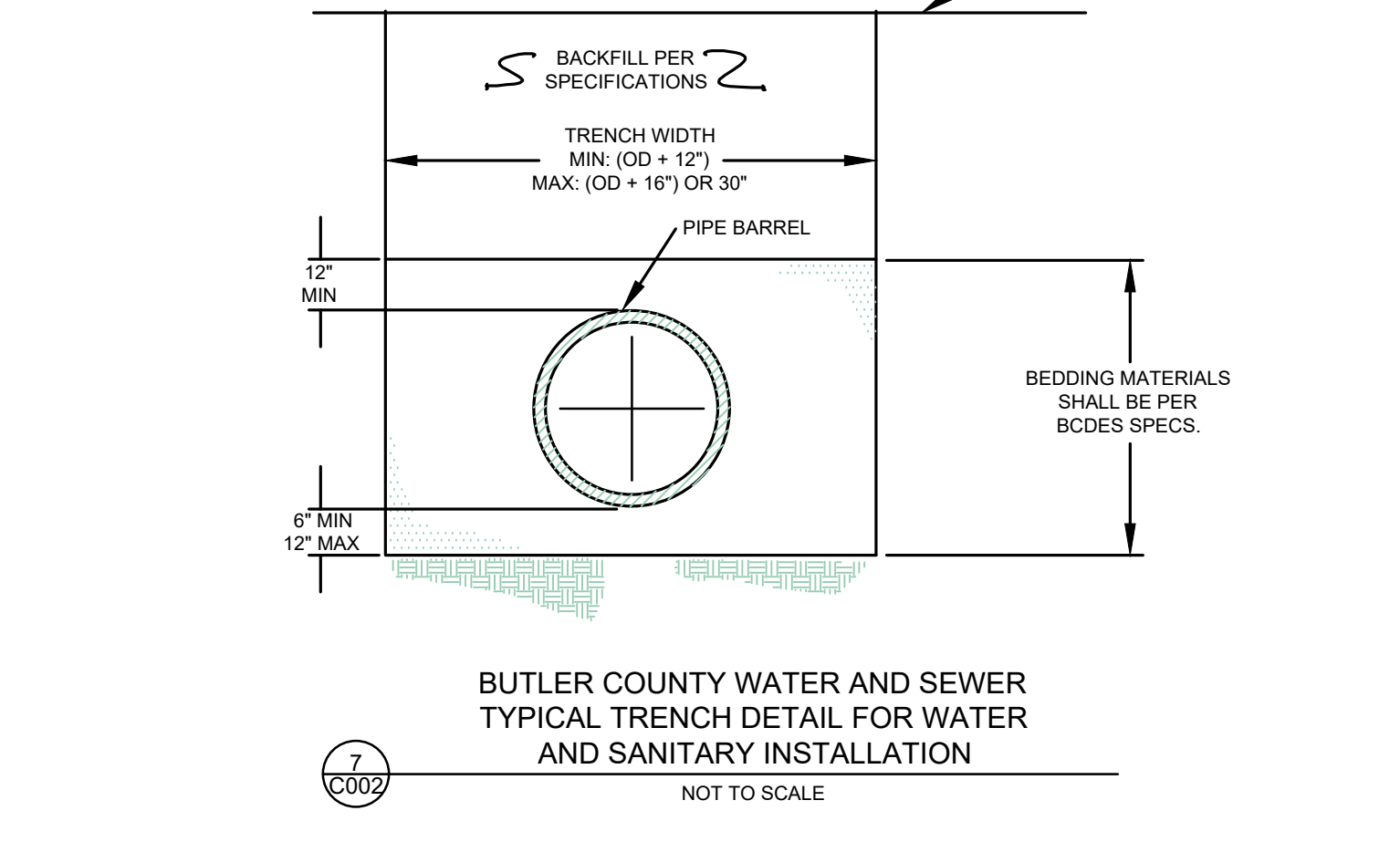
**BUTLER COUNTY WATER AND SEWER STANDARD CONTROL MANHOLE**  
NOT TO SCALE

6  
C002



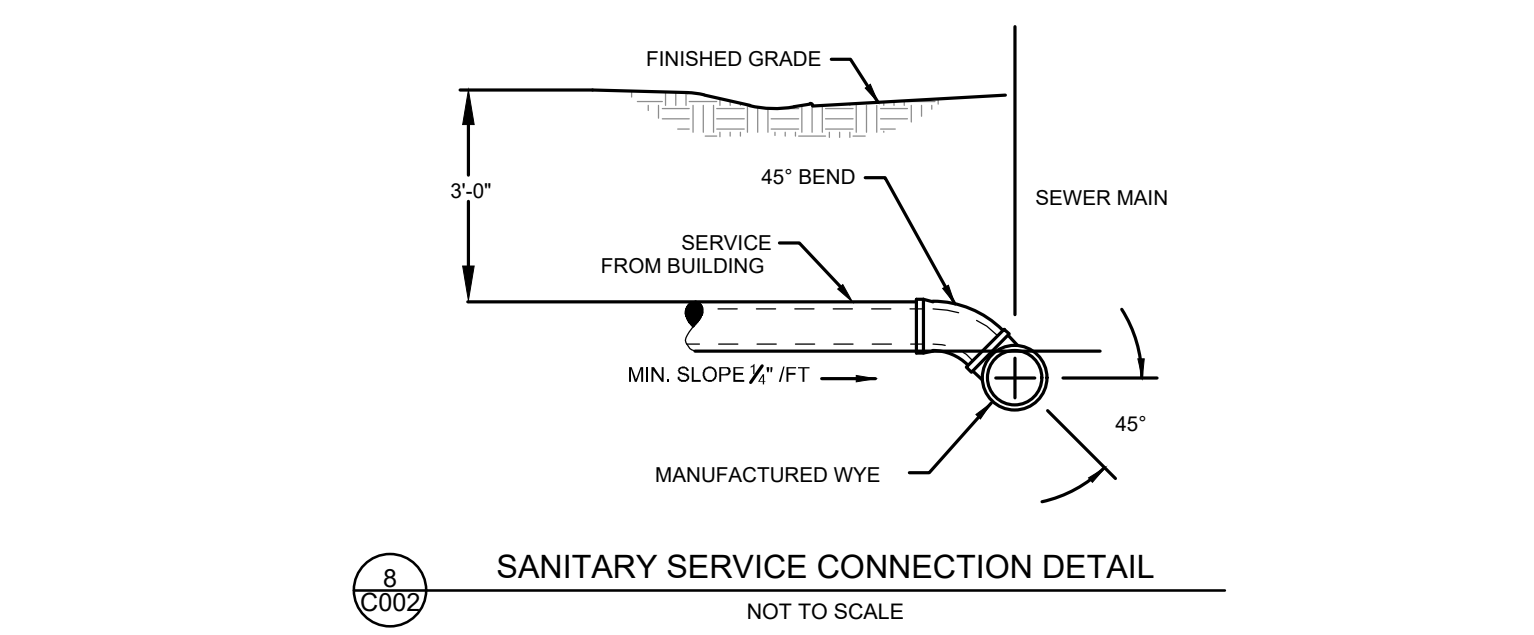
**STORM SEWER UTILITY CONDUIT OPEN CUT DETAIL**  
N.T.S.

9  
C002



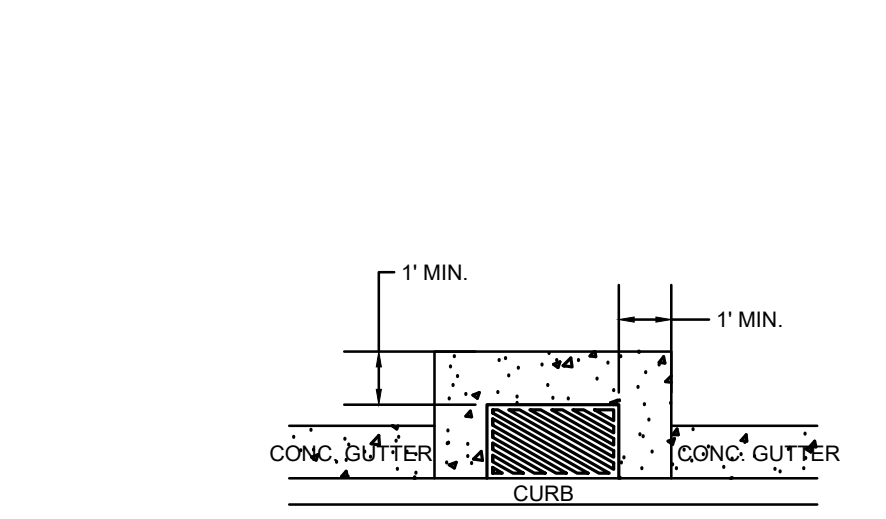
**BUTLER COUNTY WATER AND SEWER TYPICAL TRENCH DETAIL FOR WATER AND SANITARY INSTALLATION**  
NOT TO SCALE

7  
C002



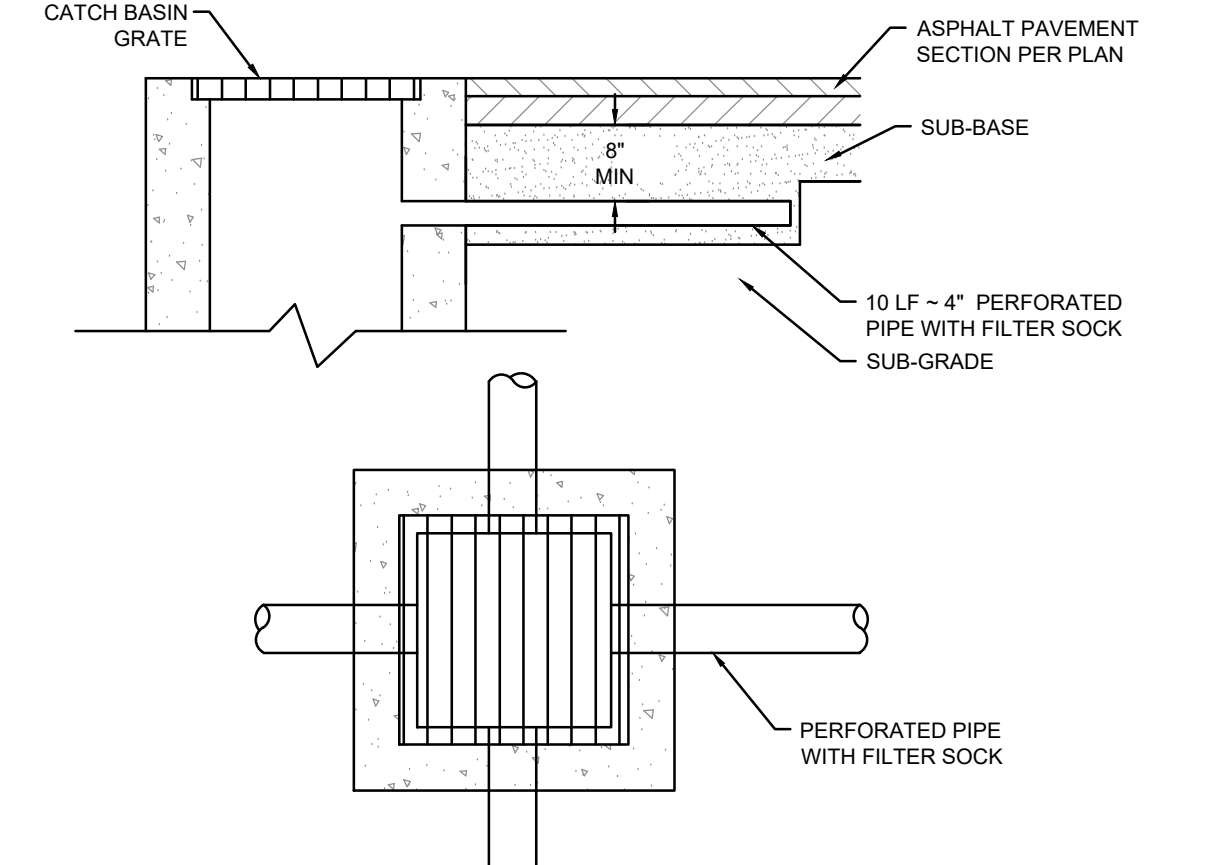
**SANITARY SERVICE CONNECTION DETAIL**  
NOT TO SCALE

8  
C002



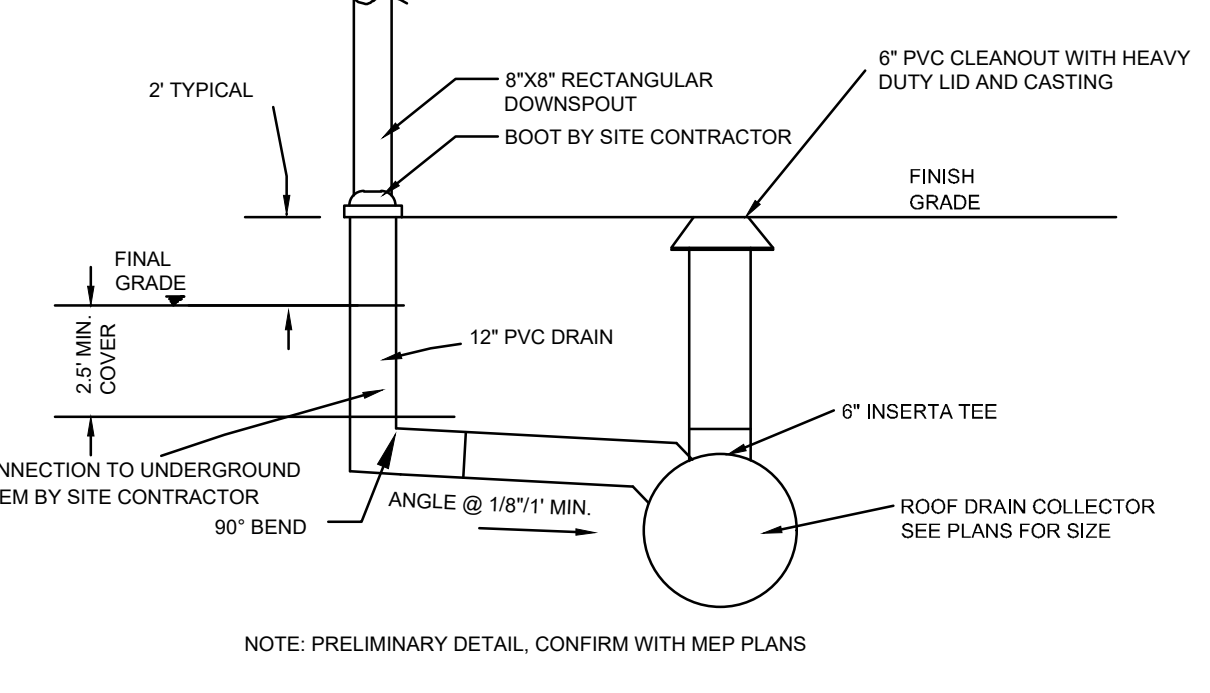
**CURB INLET CATCH BASIN DETAIL**  
N.T.S.

1  
C002



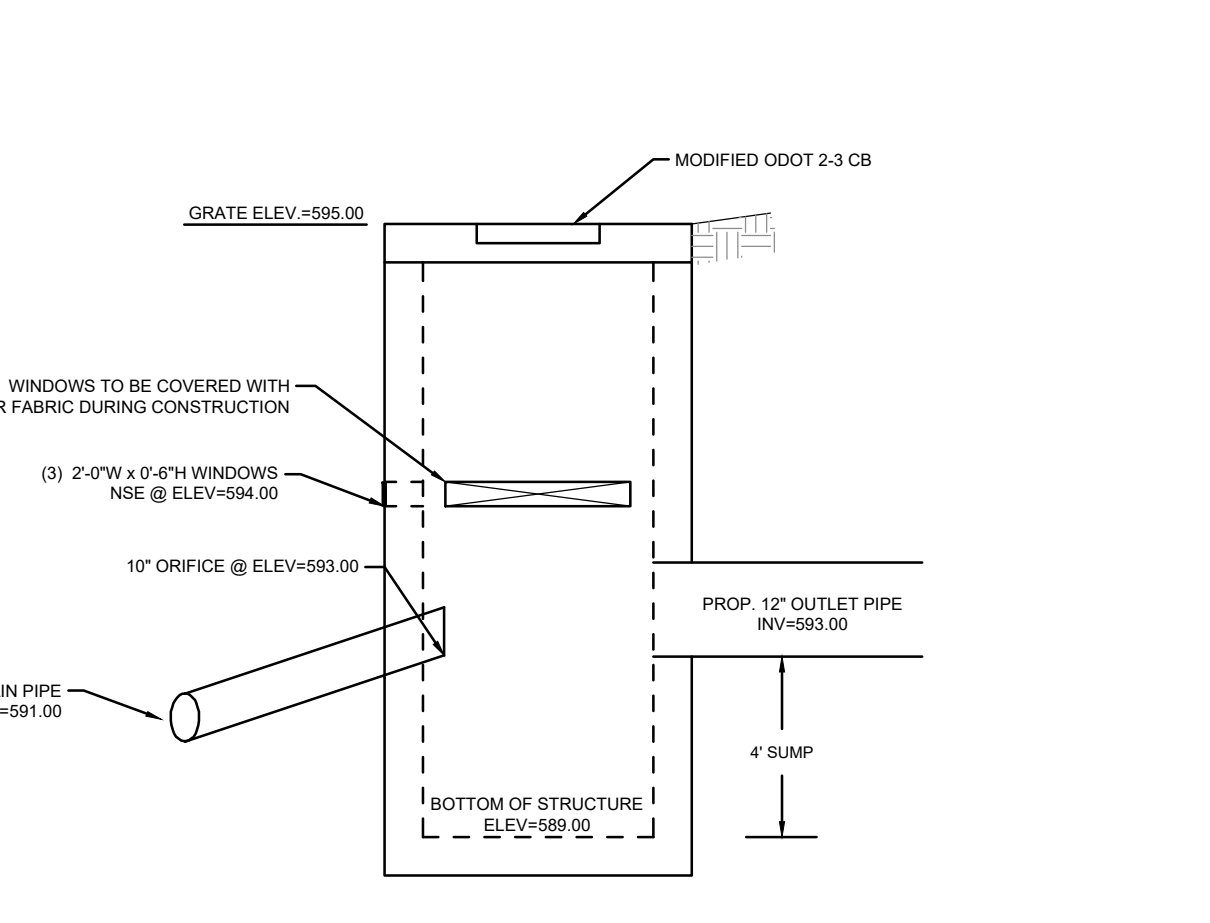
**FINGER DRAIN DETAIL**  
N.T.S.

2  
C002



**DOWNSPOUT CONNECTION DETAIL**  
NOT TO SCALE

3  
C002



**DETENTION OUTFALL STRUCTURE (001)**  
N.T.S.

13  
C002



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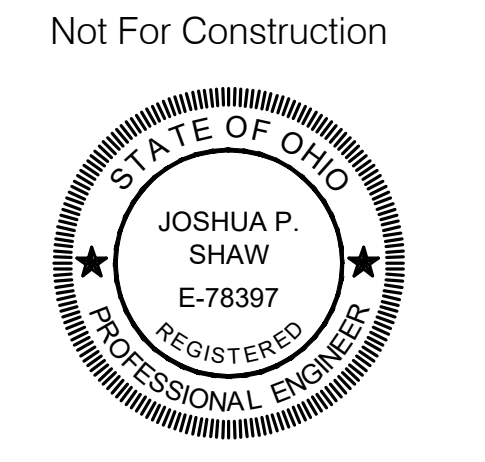


**BRATE FARM BUILDINGS 5, 6, & 7**

Brate Road West Chester, OH 45069

Project No. 160651.004  
Date: 08.23.19  
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Revisions:

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**C002**  
UTILITY DETAILS

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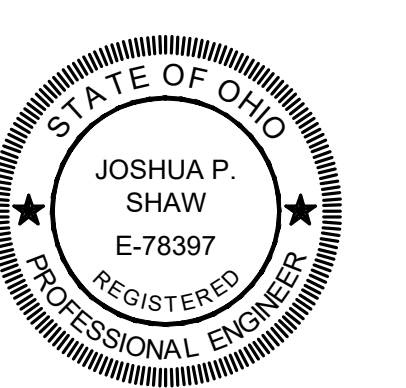


BRATE FARM  
BUILDINGS 5, 6, & 7  
Brate Road West Chester, OH 45069

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C100  
EXISTING AND DEMOLITION  
PLAN



**EXISTING LEGEND**

- 1215- EXISTING CONTOUR
- 1216- EXISTING STORM LINE
- 1217- EXISTING SANITARY LINE
- W- EXISTING WATER LINE
- G- EXISTING GAS LINE
- E- EXISTING EASEMENT
- (a) EXISTING STORM STRUCTURES
- (b) EXISTING SANITARY STRUCTURES
- (c) EXISTING WATER STRUCTURES
- (d) EXISTING GAS STRUCTURES
- S- EXISTING SIGN

**FLOODPLAIN LEGEND** (FIRM 39017C0326F, 39017C0327F, 39017C0328F, & 39017C0329F)

- ZONE X (OUTSIDE 0.2% ANNUAL CHANCE FLOODPLAIN)
- ZONE X (0.2 ANNUAL CHANCE FLOOD, 1% ANNUAL CHANCE FLOOD + 1' DEPTH OR WITH DRAINAGE AREAS OF LESS THAN ONE SQUARE MILE)
- ZONE AE (AREAS SUBJECT TO INUNDATION BY 1% ANNUAL CHANCE FLOOD, DETERMINED BASE FLOOD ELEVATIONS)

**DEMOLITION LEGEND**

- - - SAW CUT

**DEMOLITION KEY NOTES**

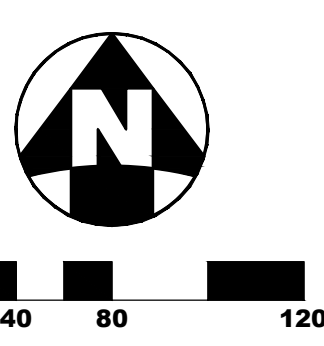
(1) DEMO CURB TO LIMITS AS REQUIRED BY PROPOSED DRIVE

**EXISTING & DEMOLITION NOTES**

- EXISTING TOPO WITHIN SUBJECT PROPERTY REPRESENTS PROPOSED GRADES FROM SEPARATE BRATE INDUSTRIAL PARK MASS GRADING PLANS.
- UNDERGROUND UTILITIES ARE PLOTTED FROM A COMPILATION OF AVAILABLE RECORD INFORMATION AND SURFACE INDICATIONS OF UNDERGROUND STRUCTURES AND MAY NOT BE INCLUSIVE. CONTRACTOR TO VERIFY LOCATION AND DEPTH OF ALL EXISTING UTILITIES BEFORE CONSTRUCTION BEGINS.

**BENCHMARKS**

- CONTROL POINT: IRON PIN (TO BE REMOVED DURING POND MASS GRADING OPERATIONS)  
N: 12297.45  
E: 7320.59  
ELEVATION: 601.25
- BENCHMARK: RAILROAD SPIKE IN POLE  
N: 10975.95  
E: 8524.90  
ELEVATION: 599.96
- BENCHMARK: SOUTH ANCHOR BOLT ON STRAIN POLE  
N: 12790.02  
E: 9655.29  
ELEVATION: 609.44
- CONTROL POINT: IRON PIN  
N: 12433.97  
E: 8605.79  
ELEVATION: 603.55



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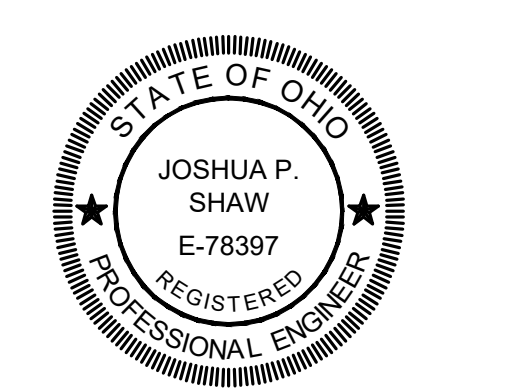
**BRATE FARM  
BUILDINGS 5, 6, & 7**

Brate Road West Chester, OH 45069

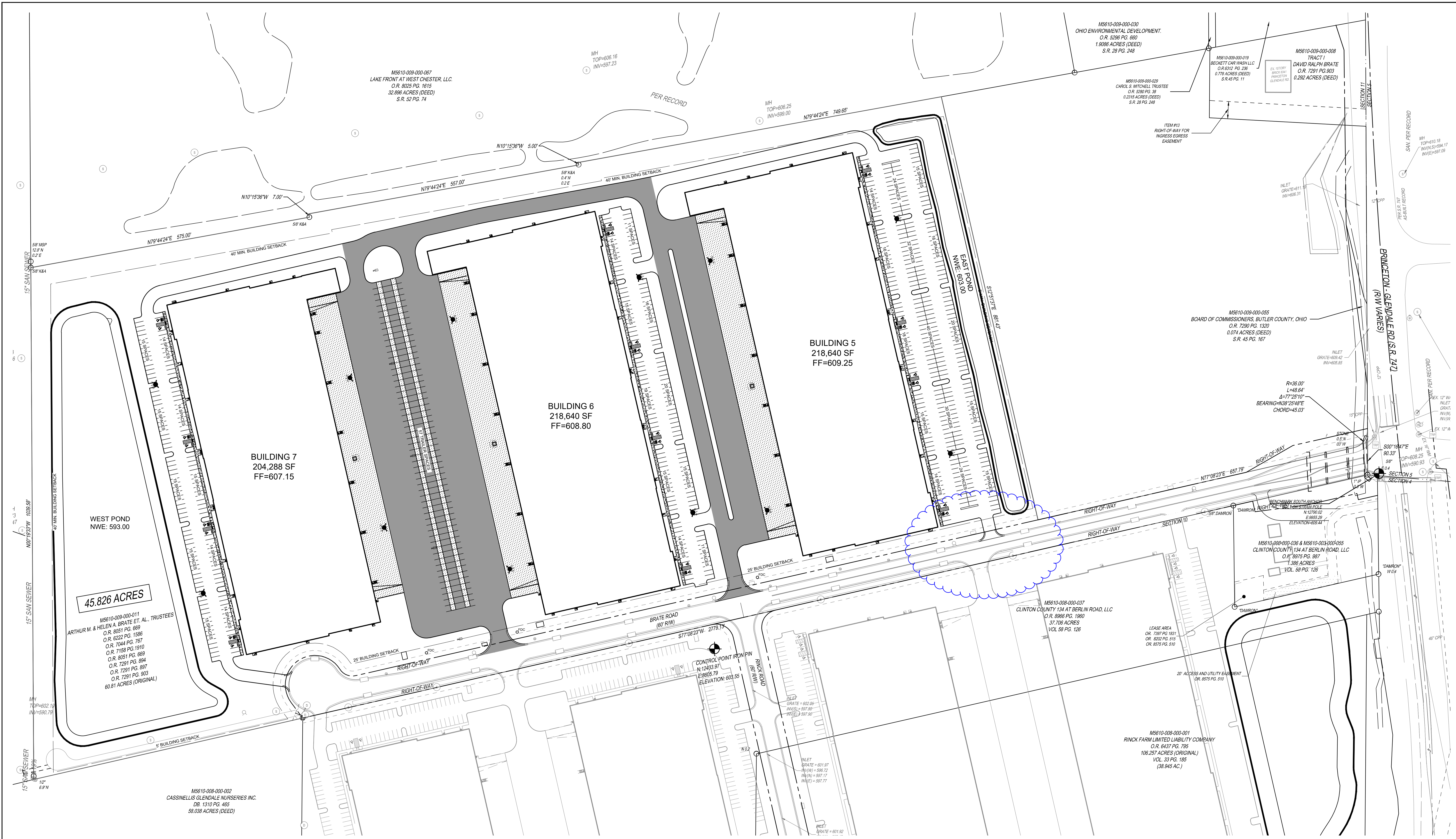
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**C200**  
OVERALL LOCATION PLAN



**SITE DATA**

**ZONE & LAND USE:**

EXISTING ZONE: I-PUD "INDUSTRIAL PLANNED UNIT DEVELOPMENT"

**I-PUD ZONING DISTRICT DIMENSIONS:**

FRONT YARD DEPTH: 25 FT  
SIDE YARD DEPTH: 5 FT  
REAR YARD DEPTH: 40 FT  
OPEN SPACE: 20% (15% REQUIRED)  
\*NOT INCLUDING LANDSCAPED ISLANDS

**PARKING CALCULATION TABLE:**

REQUIRED SPACES PER GENERAL PROVISIONS FOR INDUSTRIAL DISTRICTS:  
1.0 PER 1,000 SF OF FLOOR AREA  
STANDARD 90' PARKING STALL 18' X 9'

REQUIRED SPACES:  
BUILDING 5: 218,640 SF (5,026 AC) = 73 SPACES REQUIRED  
BUILDING 6: 218,640 SF (5,026 AC) = 73 SPACES REQUIRED  
BUILDING 7: 204,288 SF (4,697 AC) = 69 SPACES REQUIRED

PROVIDED SPACES:  
BUILDING 5: 308 SPACES (8 ADA, 300 STANDARD)  
BUILDING 6: 308 SPACES (8 ADA, 300 STANDARD)  
BUILDING 7: 146 SPACES (8 ADA, 138 STANDARD)

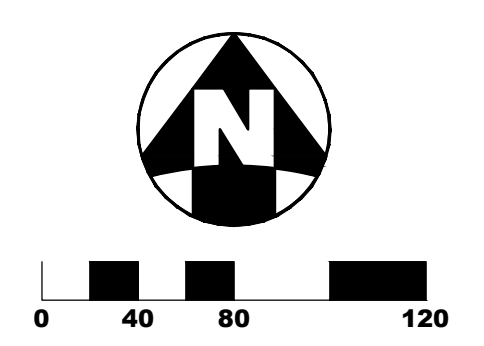
**ADA REQUIREMENTS:**

ADA SPACES:  
BUILDING 5: 301-308 SPACES, 8 MINIMUM ADA SPACES (INCLUDING 2 VAN ACCESSIBLE SPACES)  
BUILDING 6: 301-308 SPACES, 8 MINIMUM ADA SPACES (INCLUDING 2 VAN ACCESSIBLE SPACES)  
BUILDING 7: 141-146 SPACES, 8 MINIMUM ADA SPACES (INCLUDING 2 VAN ACCESSIBLE SPACES)

ENTRANCES:  
BUILDING 5: 4 OF 4 PUBLIC ENTRANCES (100%) ARE ACCESSIBLE  
BUILDING 6: 4 OF 4 PUBLIC ENTRANCES (100%) ARE ACCESSIBLE  
BUILDING 7: 4 OF 4 PUBLIC ENTRANCES (100%) ARE ACCESSIBLE



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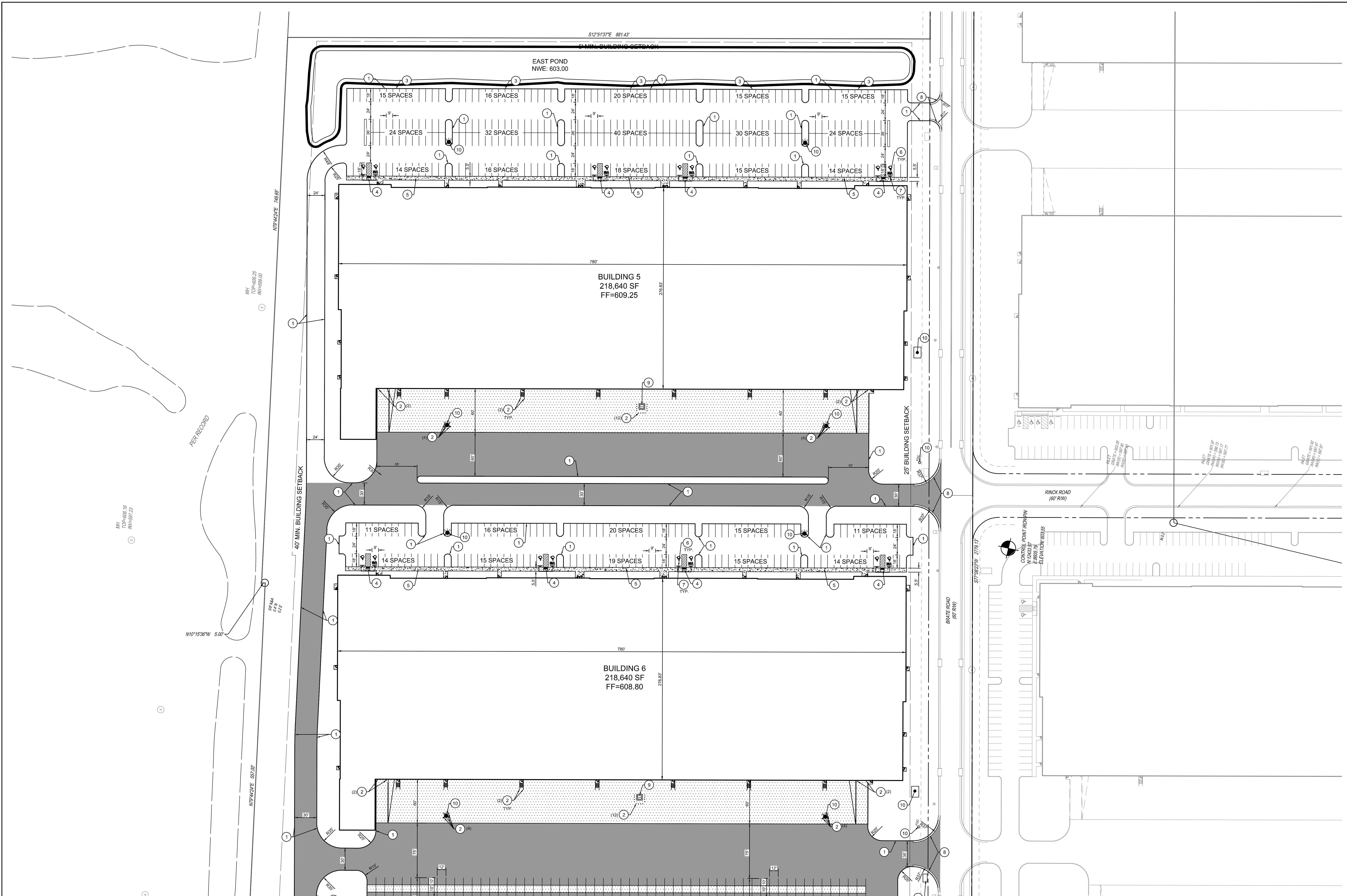
**BRATE FARM**  
BUILDINGS 5, 6, & 7  
Brate Road West Chester, OH 45069

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**C201**  
ENLARGED LOCATION PLAN



**LOCATION LEGEND**

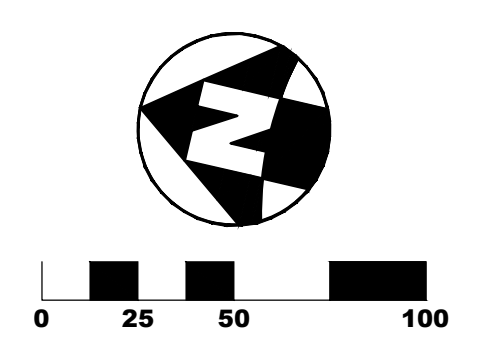
- ASPHALT PAVEMENT
- HEAVY DUTY ASPHALT PAVEMENT
- CONCRETE
- HEAVY DUTY CONCRETE

**LOCATION KEY NOTES**

- BARRIER CURB
- PIPE BOLLARD
- DRAINAGE CURB CUT DETAIL
- CURB RAMP-DOUBLE SIDED PARALLEL
- INTEGRAL CURB & WALK
- PRECAST CONCRETE WHEEL STOP
- ACCESSIBLE PARKING SIGN
- ROLL TYPE CURB AND GUTTER, BUTLER COUNTY STANDARD C-1, TYING INTO EXISTING.
- ELECTRIC UTILITY, SEE UTILITY PLAN.

**SITE NOTE:**

1. ALL CURB RADI ARE MEASURED FROM THE FACE OF CURB. RADI AREA 5' UNLESS OTHERWISE NOTED.
2. DIMENSIONS MEASURED FROM EDGE OF PAVEMENT UNLESS OTHERWISE NOTED.
3. PARKING LOT STRIPING SHALL BE 4" WIDE WHITE HIGHWAY-TYPE STRIPING APPLIED IN ACCORDANCE WITH THE PLAN.
4. REFER TO LANDSCAPE PLAN FOR PROPOSED LANDSCAPING LOCATIONS AND DETAILS.



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BRATE FARM  
BUILDINGS 5, 6, & 7  
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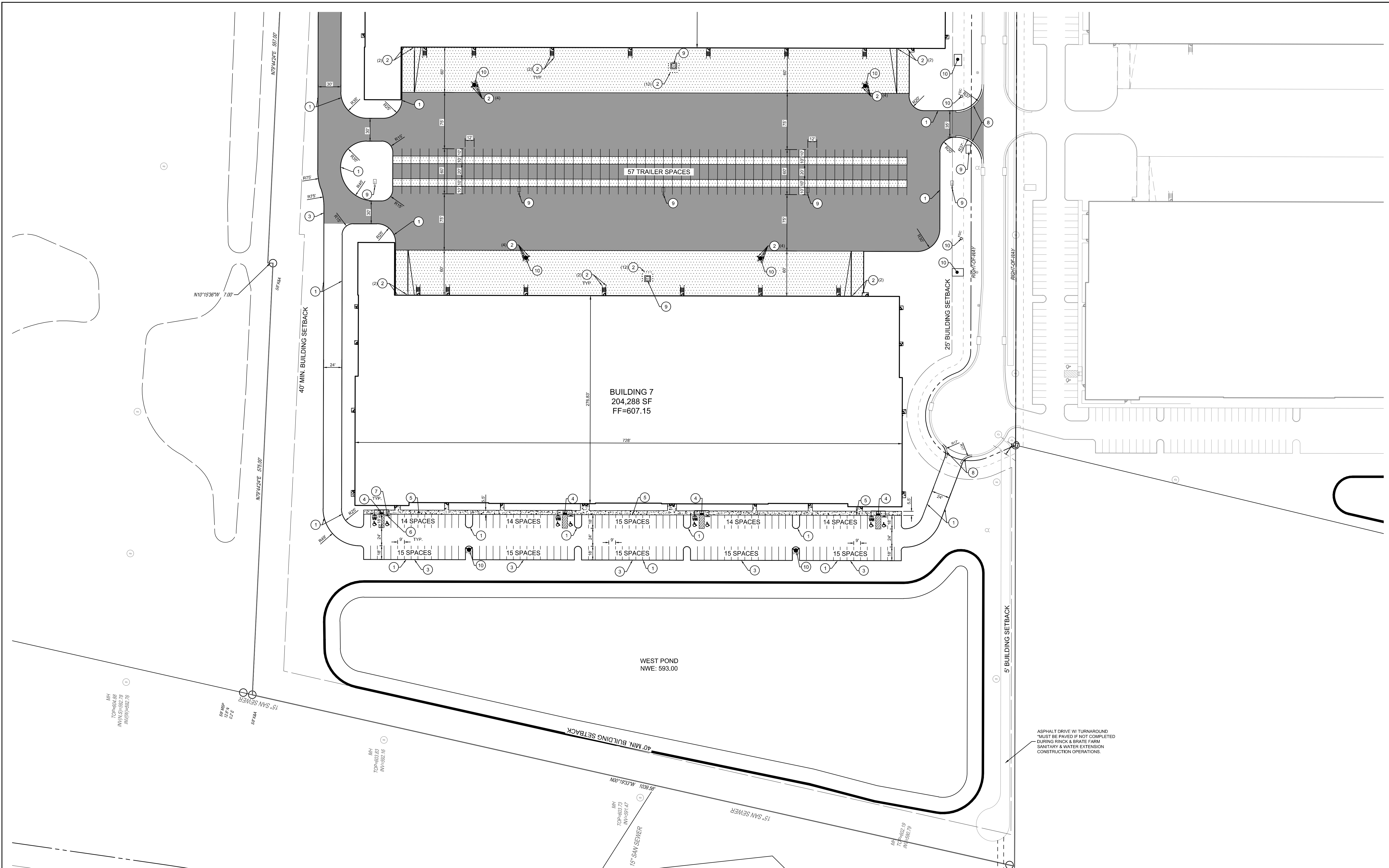
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C202  
ENLARGED LOCATION PLAN



**LOCATION LEGEND**

1	ASPHALT PAVEMENT
2	HEAVY DUTY ASPHALT PAVEMENT
3	CONCRETE
4	HEAVY DUTY CONCRETE

**LOCATION KEY NOTES**

1	BARRIER CURB
2	PIPE BOLLARD
3	DRAINAGE CURB CUT DETAIL
4	CURB RAMP-DOUBLE SIDED PARALLEL
5	INTEGRAL CURB & WALK
6	PRECAST CONCRETE WHEEL STOP
7	ACCESSIBLE PARKING SIGN
8	ROLL TYPE CURB AND GUTTER, BUTLER COUNTY STANDARD C-1, TYING INTO EXISTING.
9	ELECTRIC UTILITY, SEE UTILITY PLAN.

10 WATER UTILITY, SEE UTILITY PLAN.

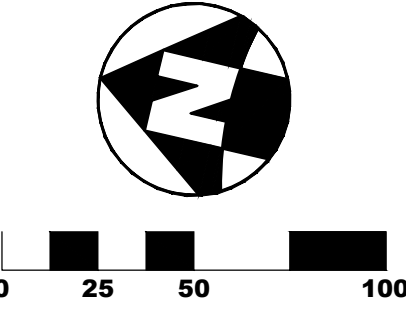
**SITE NOTE:**

- ALL CURB RADII ARE MEASURED FROM THE FACE OF CURB. RADII AREA 9' UNLESS OTHERWISE NOTED.
- DIMENSIONS MEASURED FROM EDGE OF PAVEMENT UNLESS OTHERWISE NOTED.
- PARKING LOT STRIPING SHALL BE 4" WIDE WHITE HIGHWAY-TYPE STRIPING APPLIED IN ACCORDANCE WITH THE PLAN.
- REFER TO LANDSCAPE PLAN FOR PROPOSED LANDSCAPING LOCATIONS AND DETAILS.

ASPHALT DRIVE W/ TURNAROUND  
MUST BE PAVED IF NOT COMPLETED  
DURING FINISH & BRATE FARM  
SANITARY & WATER EXTENSION  
CONSTRUCTION OPERATIONS.



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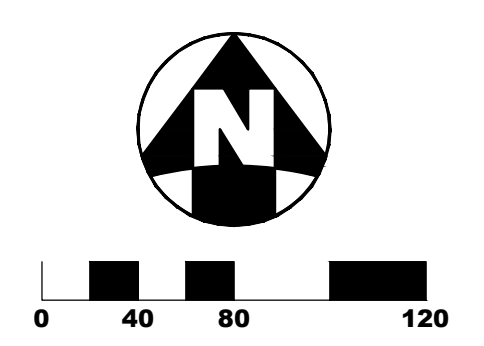
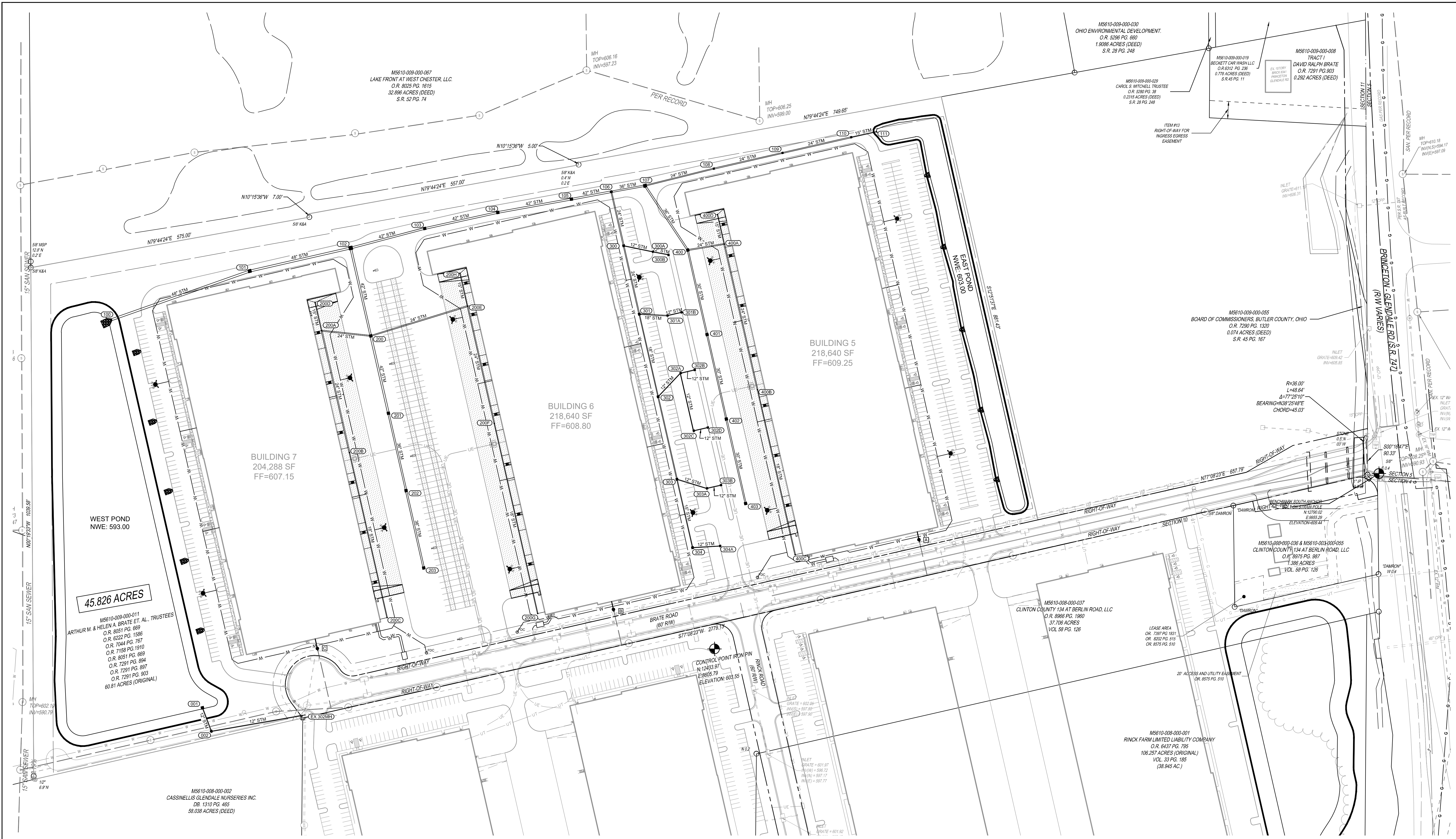
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C300  
OVERALL UTILITY PLAN



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West Chester, OH 45069  
613.770.7851



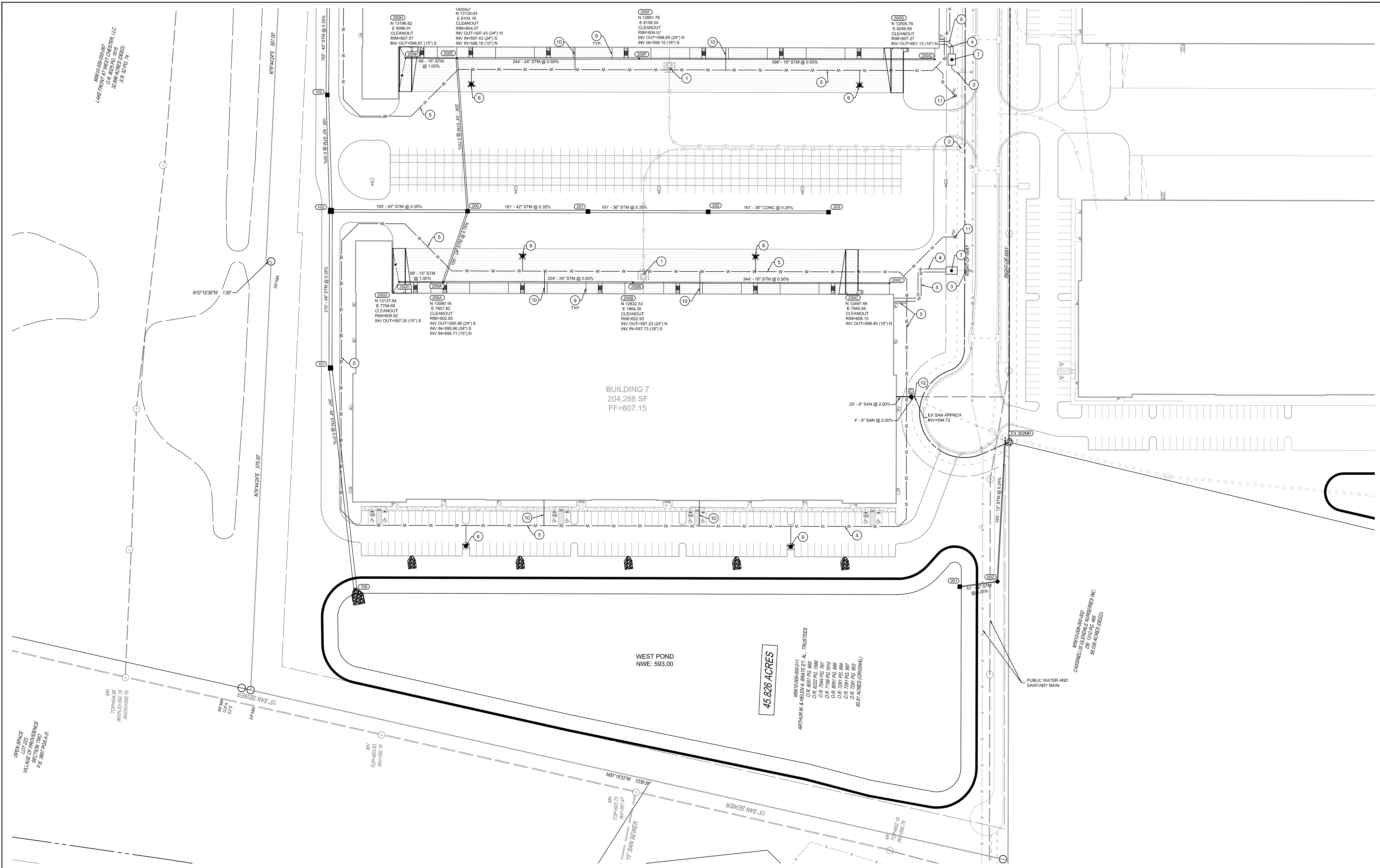
BRATE FARM  
BUILDINGS 5, 6, & 7  
Brate Road West Chester, OH 45069

Project No. 160651.004  
Date: 08.23.19  
Issued For: CONSTRUCTION SET  
Revisions:  
No. Date Description

Not For Construction



C302  
ENLARGED UTILITY PLAN



**UTILITY LEGEND**

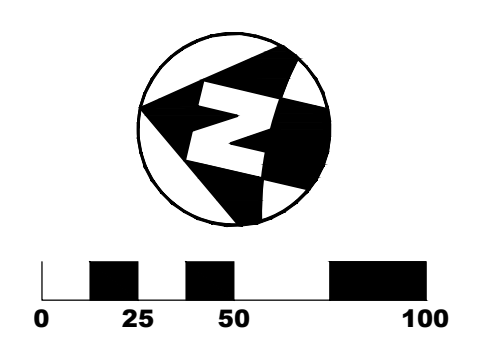
STM	STORM SEWER PIPE
100	CATCH BASIN
100	CURB INLET
100	STORM CLEANOUT
100	HEADWALL
100	MANHOLE
SSN	SANITARY SEWER PIPE
100	SANITARY SEWER MANHOLE
100	SANITARY SEWER CLEANOUT
WT	WATERLINE PIPE
100	FIRE HYDRANT
100	WATER VALVE
---	UNDERGROUND ELECTRIC
---	UNDERGROUND TELEPHONE
---	UNDERGROUND GAS LINE

- KEYNOTES**
- TRANSFORMER PAD, CONFIRM LOCATION ON ELECTRIC INFRASTRUCTURE SITE PLAN PRIOR TO INSTALLATION.
  - UTILITY SWITCH PIT, CONFIRM LOCATION ON ELECTRIC INFRASTRUCTURE SITE PLAN PRIOR TO INSTALLATION.
  - CONNECTION TO EXISTING WATER LATERAL.
  - 2" DOMESTIC MAIN
  - 10" FIRE LINE
  - FIRE HYDRANT ASSEMBLY
  - DUAL SERVICE WATER METER PIT
  - DOWNSPOUT CONNECTION
  - 8" FIRE LINE TO RISER CONNECTION, CONFIRM LOCATION ON FIRE PROTECTION PLAN PRIOR TO INSTALLATION.

- UTILITY NOTES**
- VERIFY UTILITY LOCATIONS INTO BUILDING WITH MEP AND FIRE PROTECTION PLANS PRIOR TO CONSTRUCTION.
  - CONTRACTOR TO FIELD LOCATE ALL NEARBY UNDERGROUND UTILITIES PRIOR TO CONSTRUCTION.
  - SEE MEP DRAWINGS FOR DETAILS ON UTILITY CONNECTIONS INTO THE PROPOSED BUILDING.
  - INSTALL FINGER DRAINS AT ALL CATCH BASINS PER DETAIL 4/C002.
  - CONFIRM METER PIT AND FIRE LINE LOCATIONS WITH FIRE PROTECTION PLAN.
  - ALL FIRE LINES ARE TO BE 10" DOMESTIC MAIN SIZES SPECIFIED AT 2".
  - FIRE LINES ARE TO HAVE CONTROL VALVES SPACED EVERY 100'.

- KEYNOTES**
- 30" STORZ F.D.C. OFF FIRE LOOP, MUST BE INSTALLED WITHIN 100 FT OF A CITY FIRE HYDRANT. REFER TO FIRE PROTECTION PLAN FOR DETAILS.
  - CONNECTION TO EXISTING SANITARY LATERAL.

45.826 ACRES  
ARTHUR M. & HELENA BRATE ET AL., TRUSTEES  
O.R. 8857 PG. 689  
O.R. 7244 PG. 1388  
O.R. 7188 PG. 1910  
O.R. 8857 PG. 689  
O.R. 8857 PG. 689  
O.R. 7291 PG. 804  
O.R. 7291 PG. 803  
68.87 ACRES (ORIGINAL)



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NOTE: 100% ORIGINAL  
LAKELAND PROPERTY AT CHESTER, LLC  
3.28 ACRES (DEED)  
S1/4, 27 PG. 74

OPEN SPACE  
LOT 221  
VILLAGE PROVISIONS  
SECTION 10.0  
P.E. 8897 PG. 210

M.H.  
TOP=592.79  
INV=592.76

M.H.  
TOP=592.83  
INV=592.80

M.H.  
TOP=592.83  
INV=592.80

M.H.  
TOP=602.72  
INV=591.47

M.H.  
TOP=592.10  
INV=580.79

WEST POND  
NWE: 593.00

BUILDING 7  
204,288 SF  
FF=607.15

NEW ADJACENT  
CASIMIRUS GLENN MURKINER INC.  
DB. 1710 PG. 85  
50.28 ACRES (DEED)

PUBLIC WATER AND  
SANITARY MAIN



**studioNorth**  
ARCHITECTURE

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816 | 885 | 7380  
187 Studio North, LLC  
Ohio Certificate of Authorization No. 00307296



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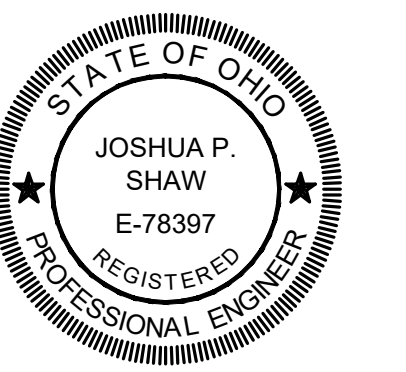


**BRATE FARM**  
BUILDINGS 5, 6, & 7

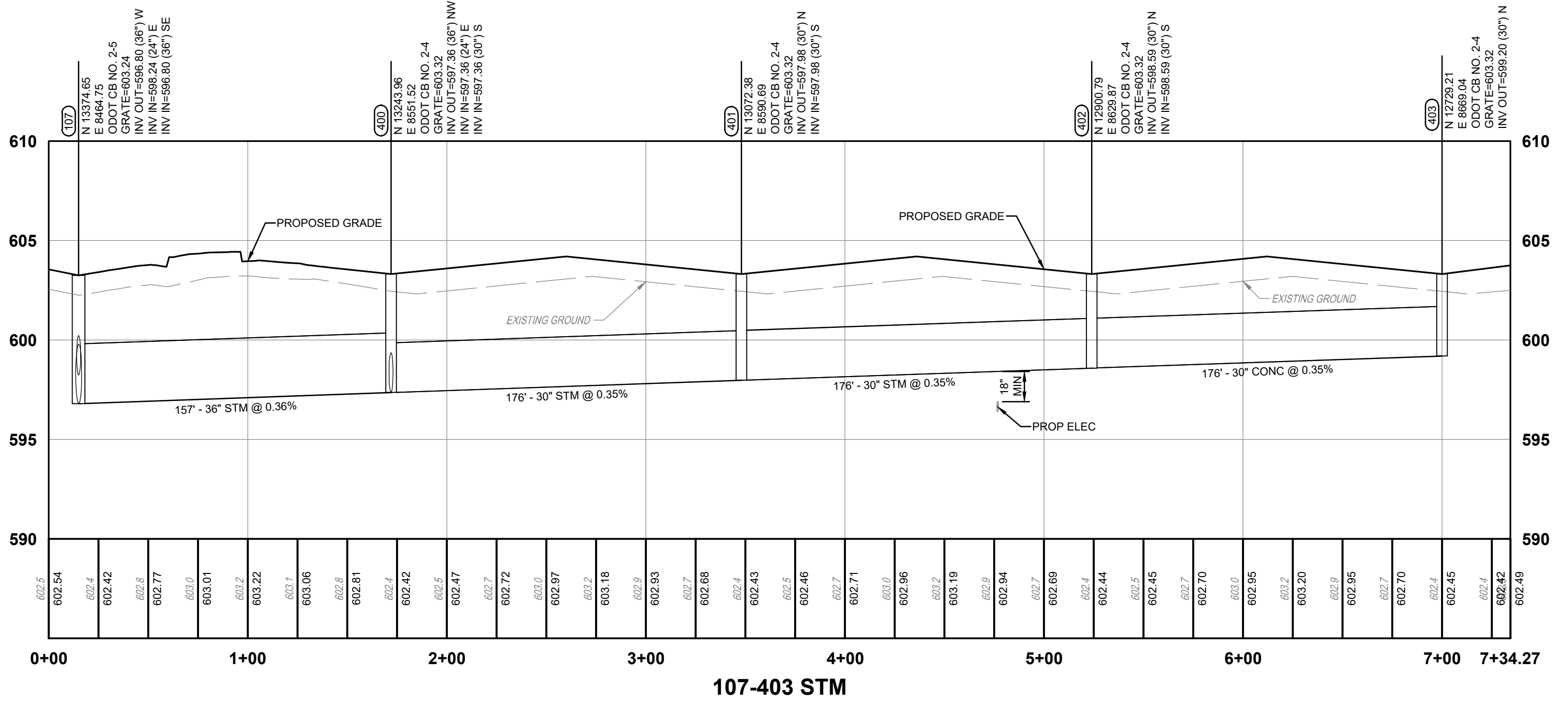
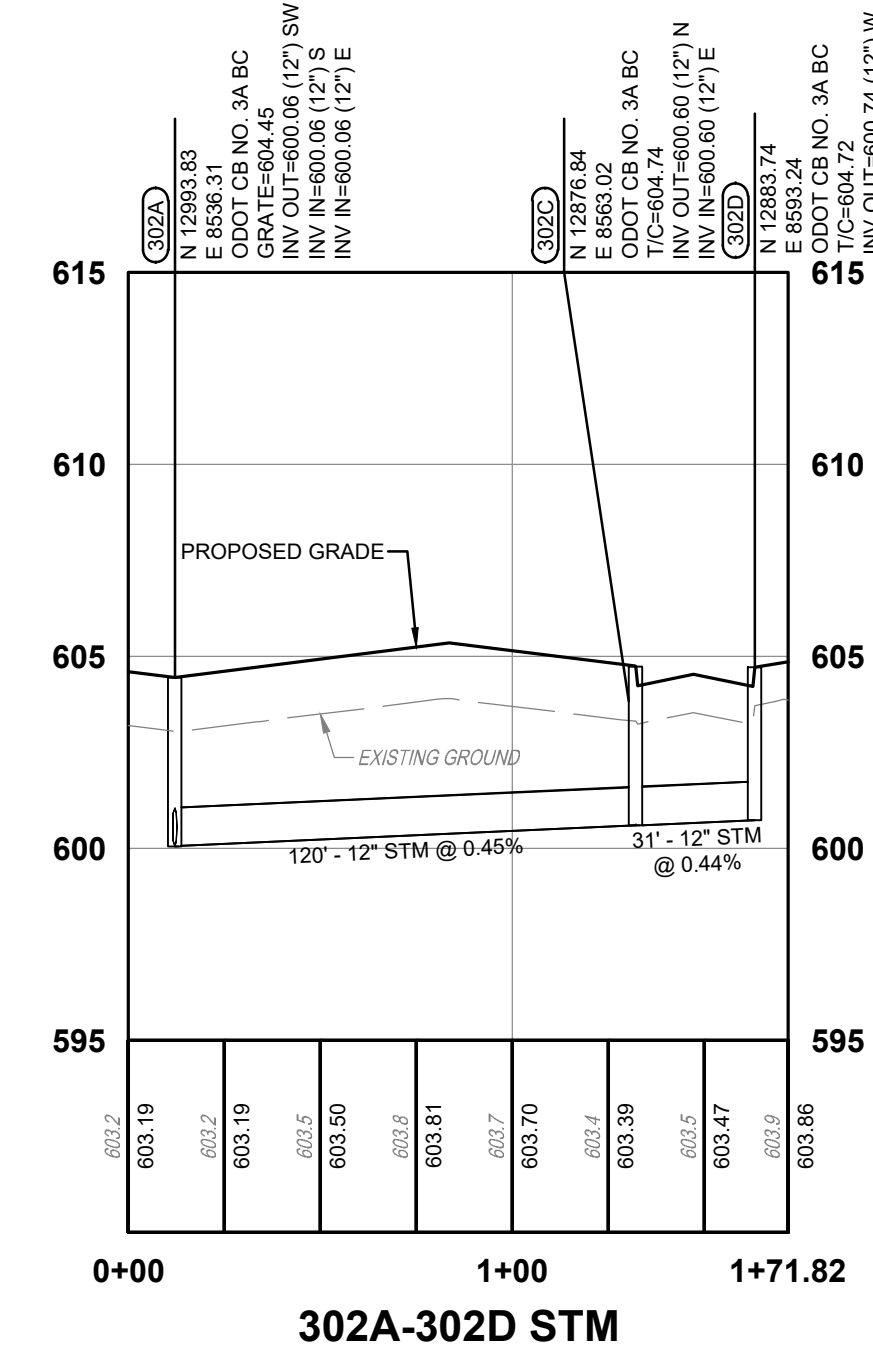
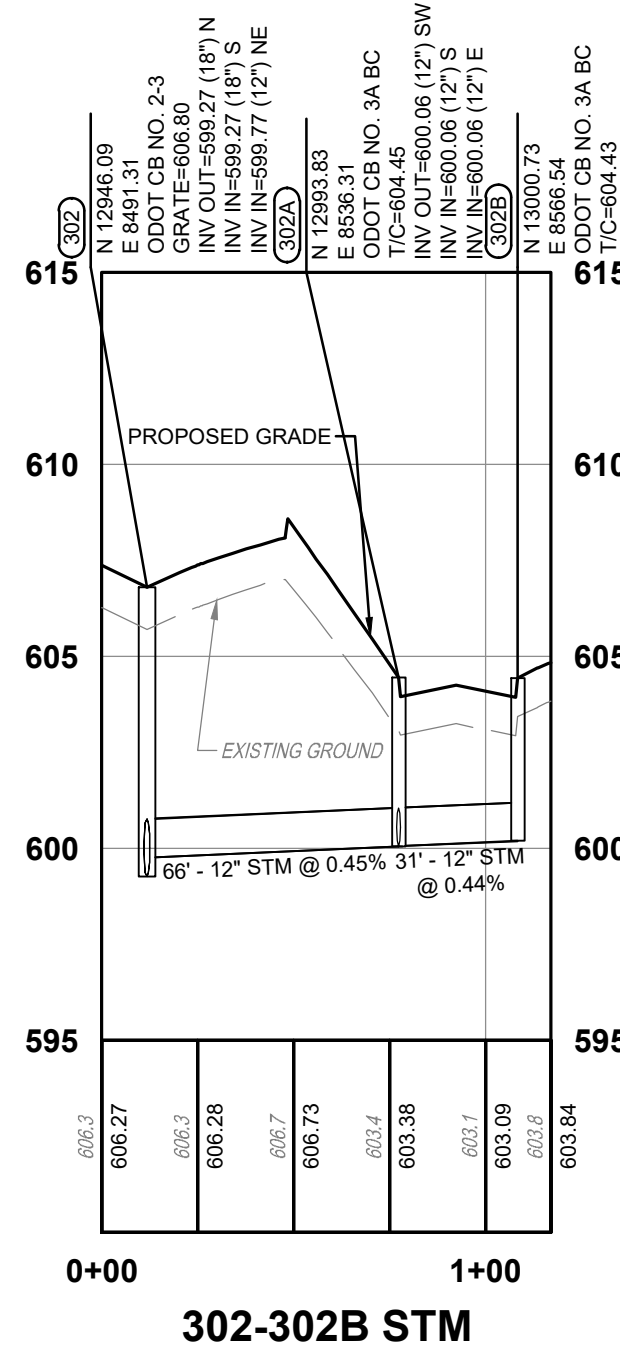
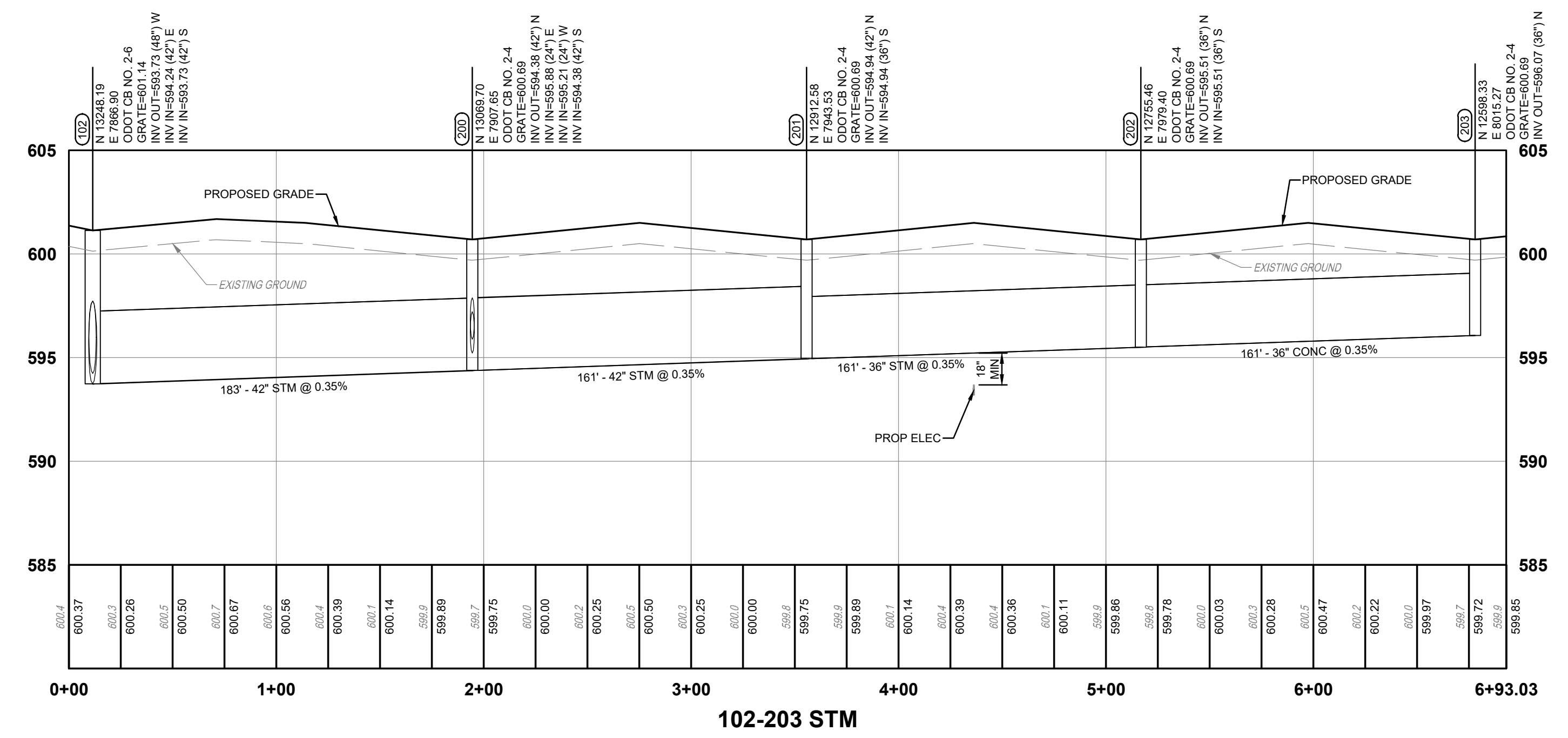
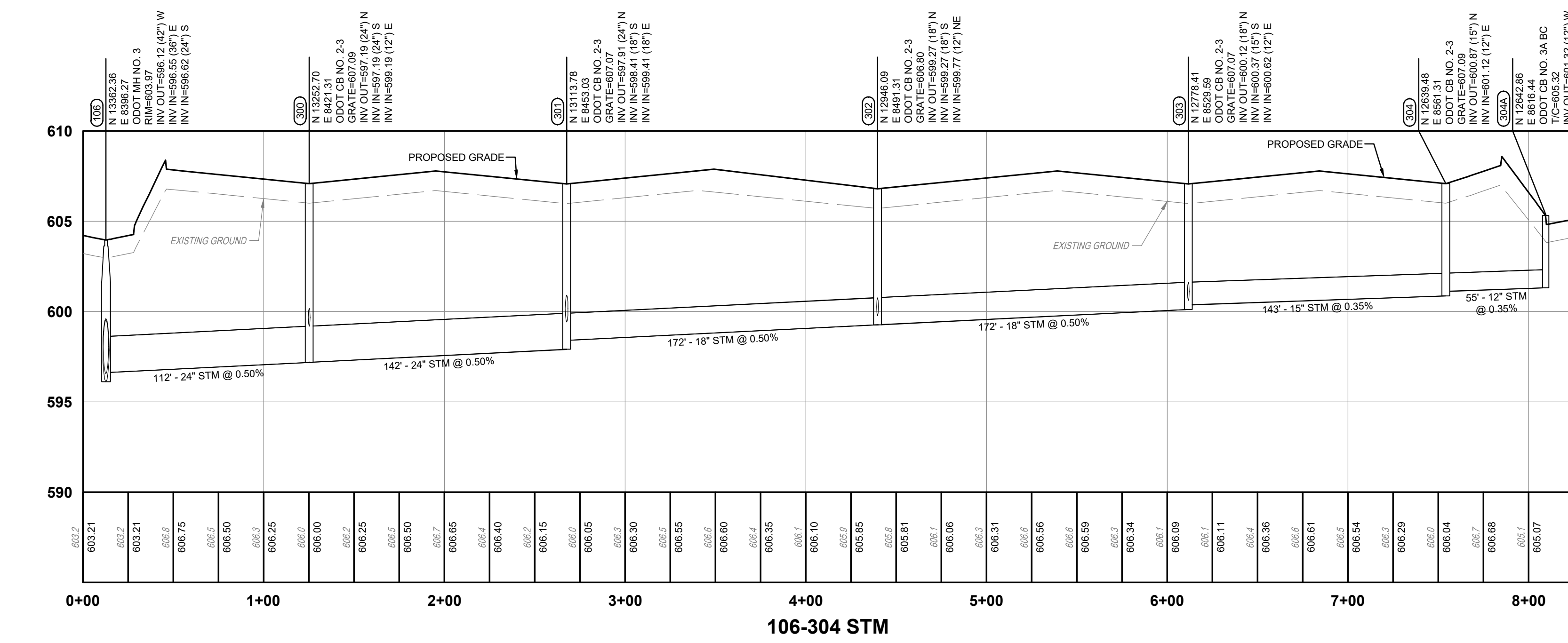
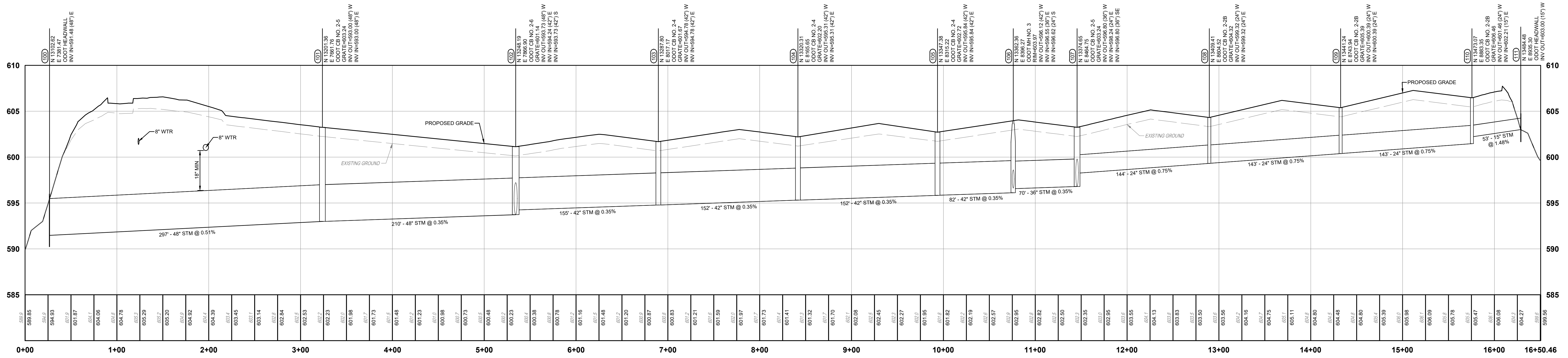
Brate Road West Chester, OH 45069

Project No. 160651.004  
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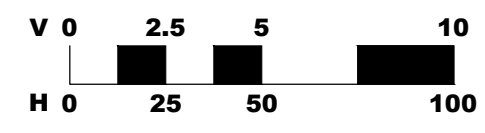
Not For Construction



**C350**  
UTILITY PROFILES



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**BRATE FARM**  
 BUILDINGS 5, 6, & 7

Brate Road Brate Road  
 West Chester, OH 45069 West Chester, OH 45069

Project No. 160651.004

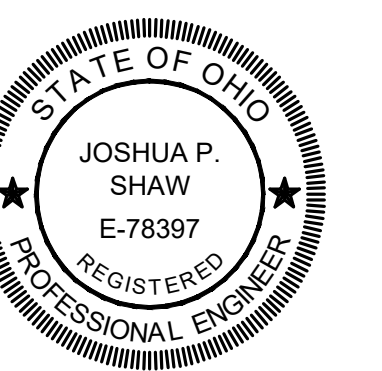
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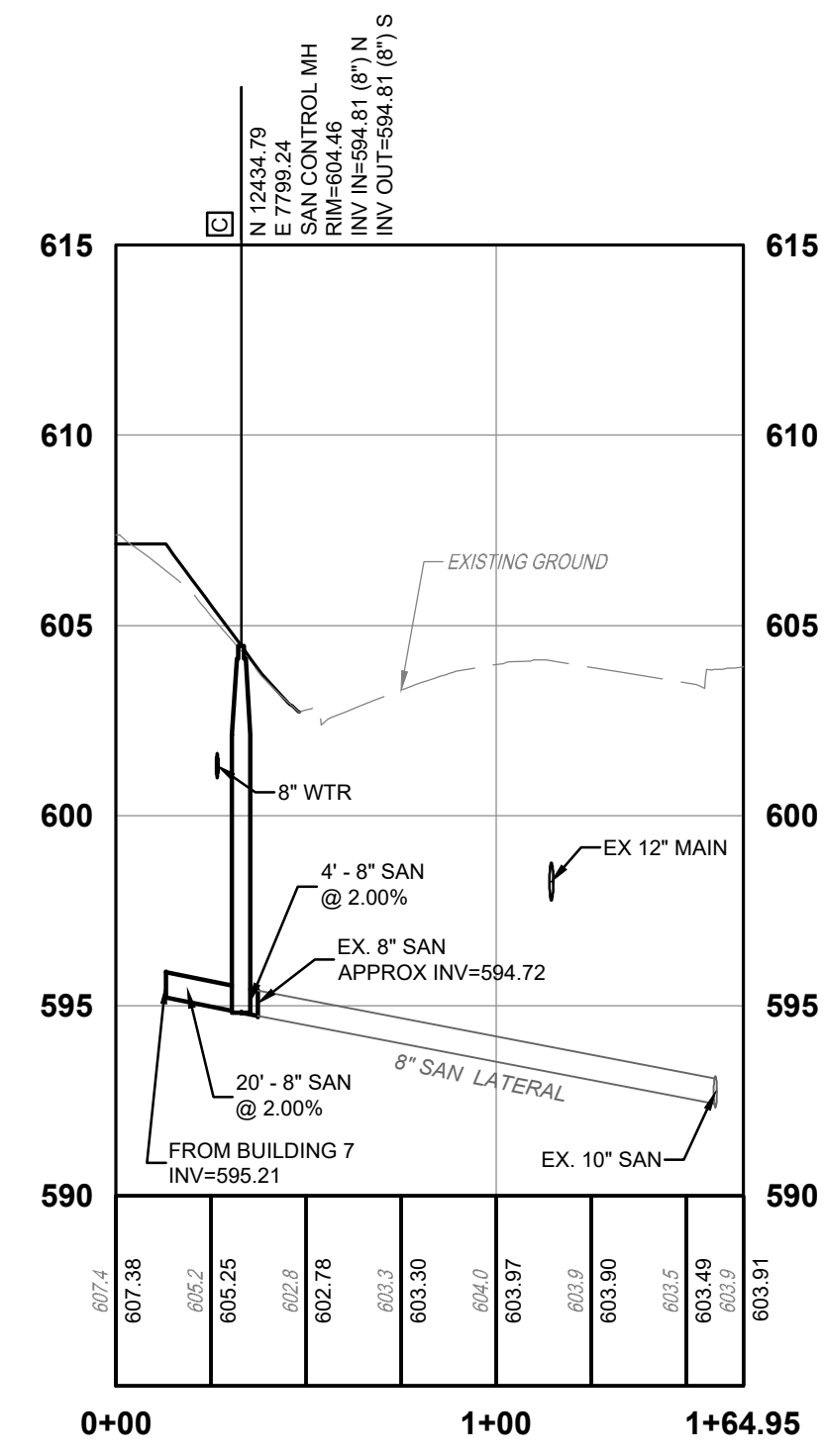
Revisions:

No.	Date	Description

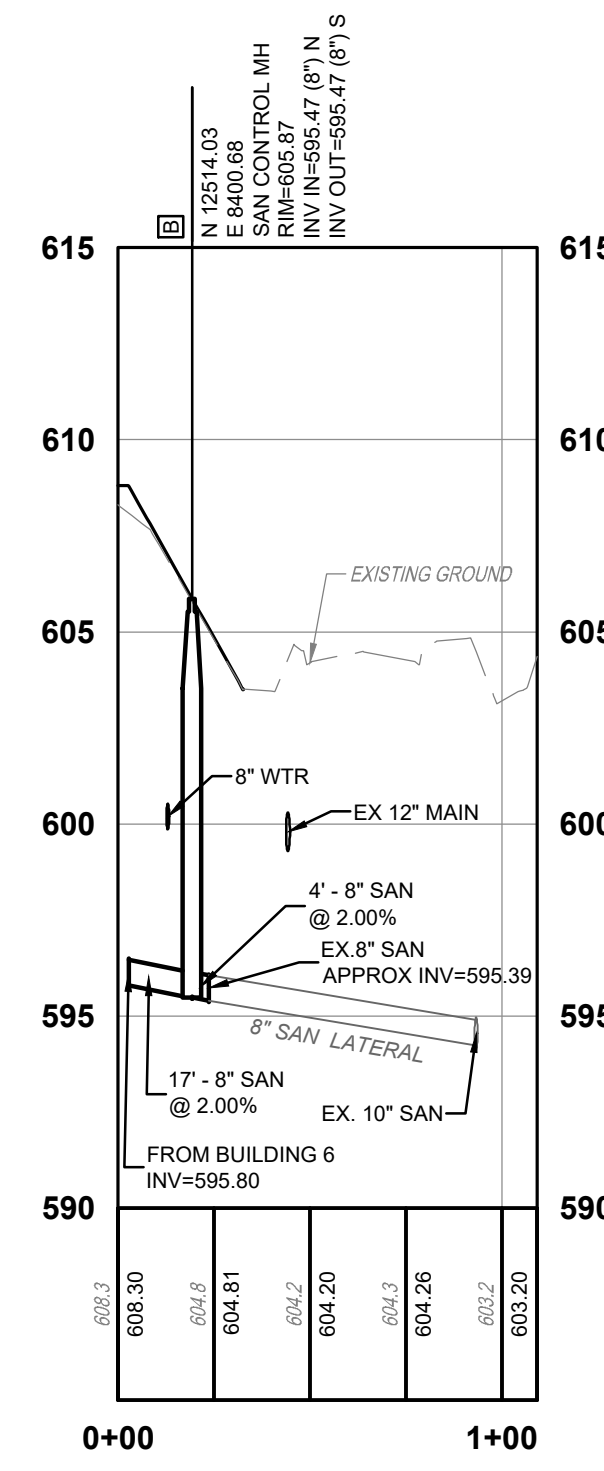
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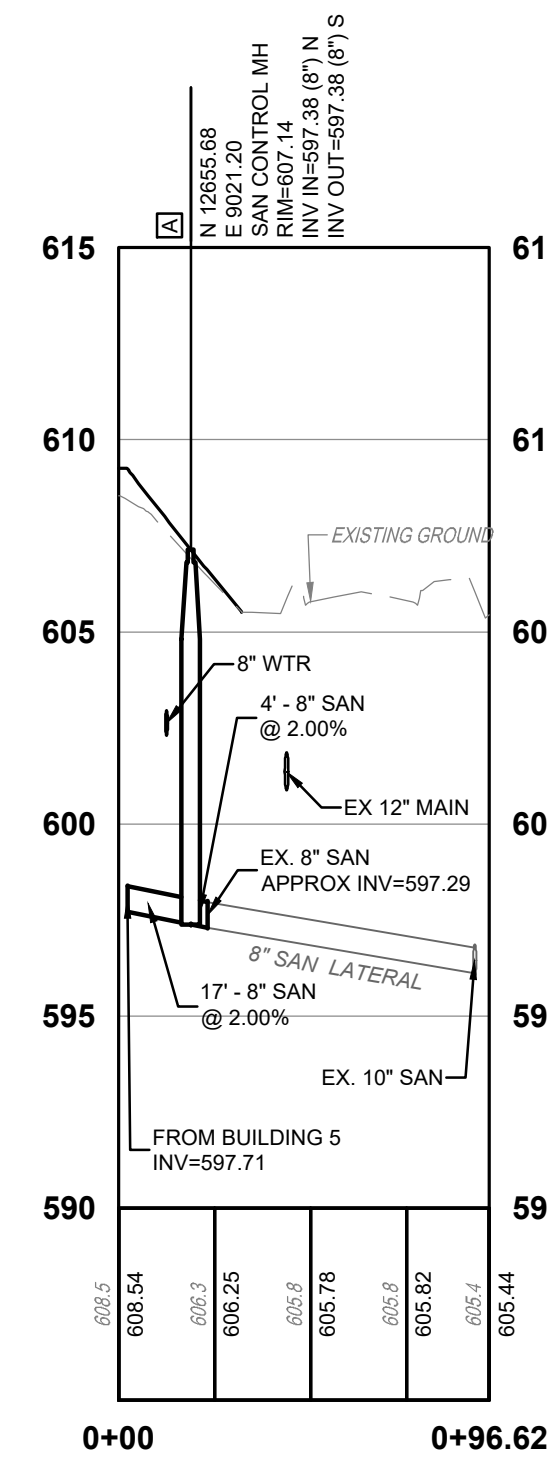
**C351**  
 UTILITY PROFILES



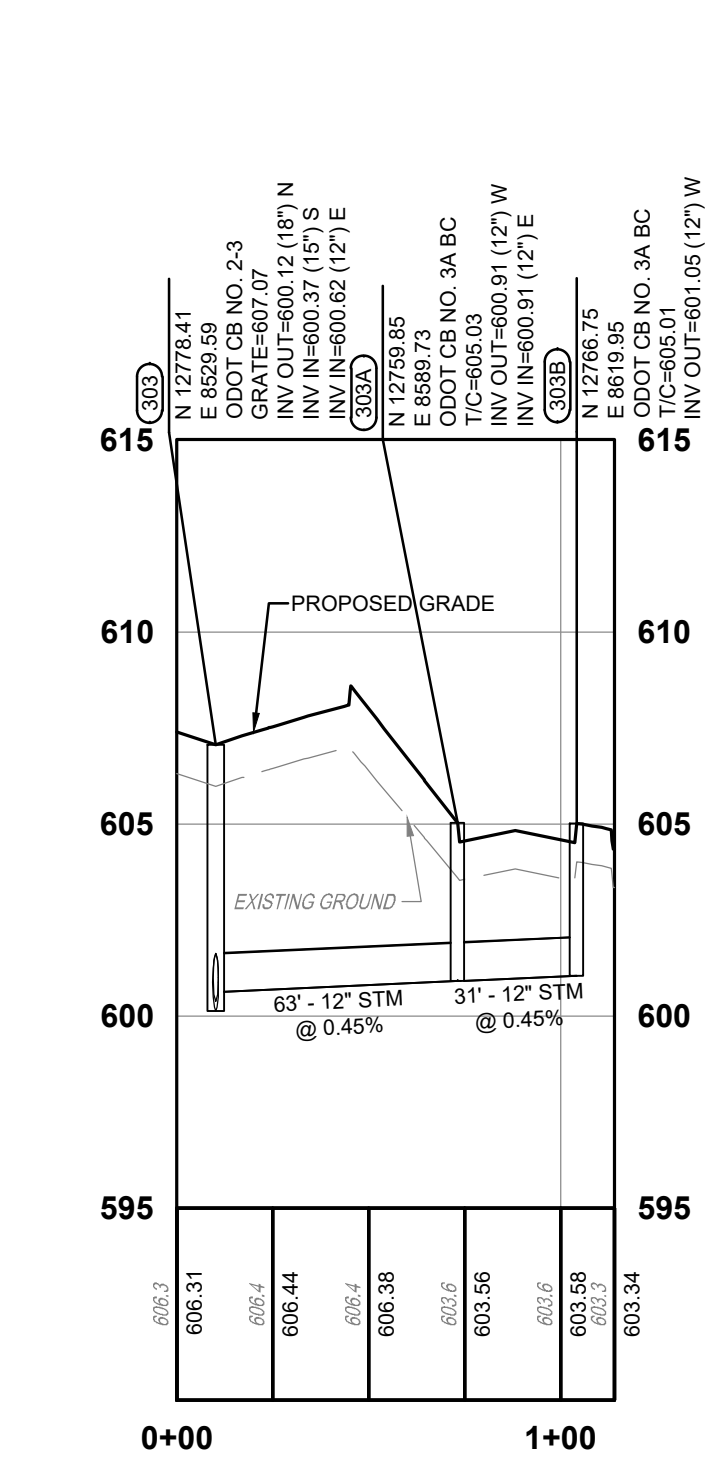
**BUILDING 7 SAN**  
 \* ASSUMED 2.00% LATERAL FROM EXISTING LATERAL TO BUILDING.  
 CONTRACTOR TO CONFIRM INVERT TO BUILDING ON MEP PLANS PRIOR TO INSTALLATION.



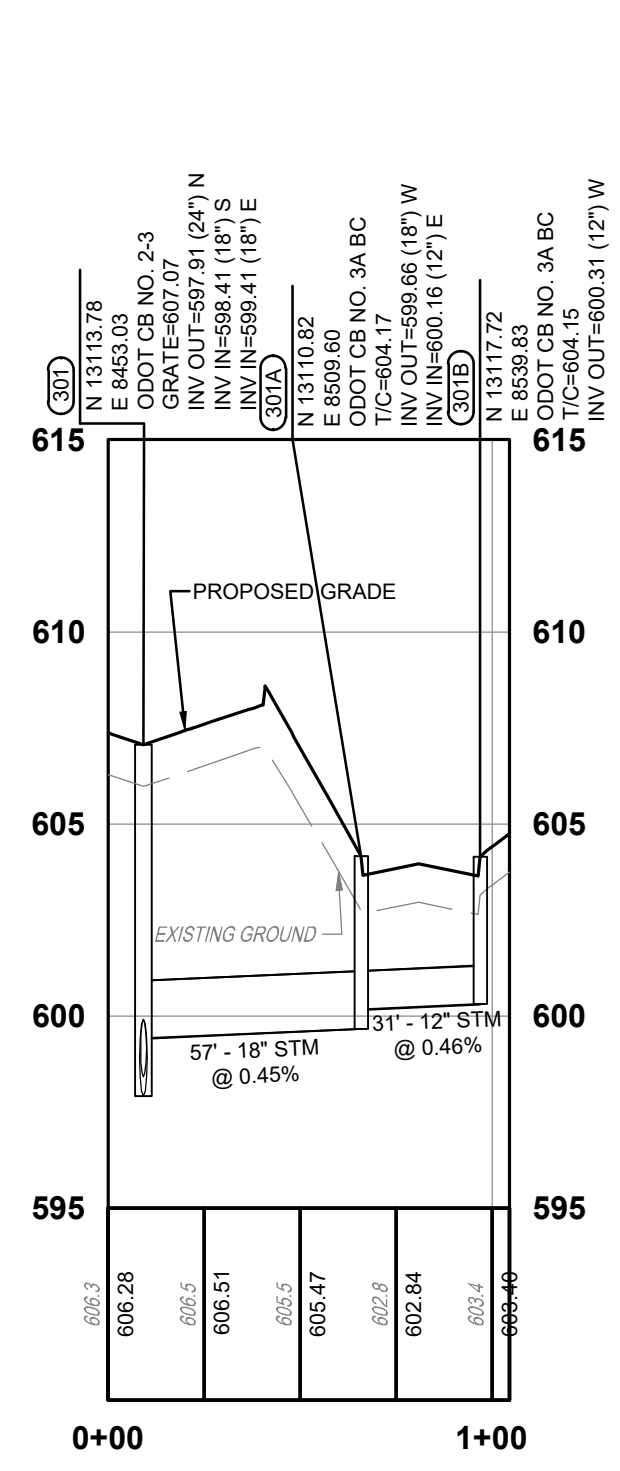
**BUILDING 6 SAN**  
 \* ASSUMED 2.00% LATERAL FROM EXISTING LATERAL TO BUILDING.  
 CONTRACTOR TO CONFIRM INVERT TO BUILDING ON MEP PLANS PRIOR TO INSTALLATION.



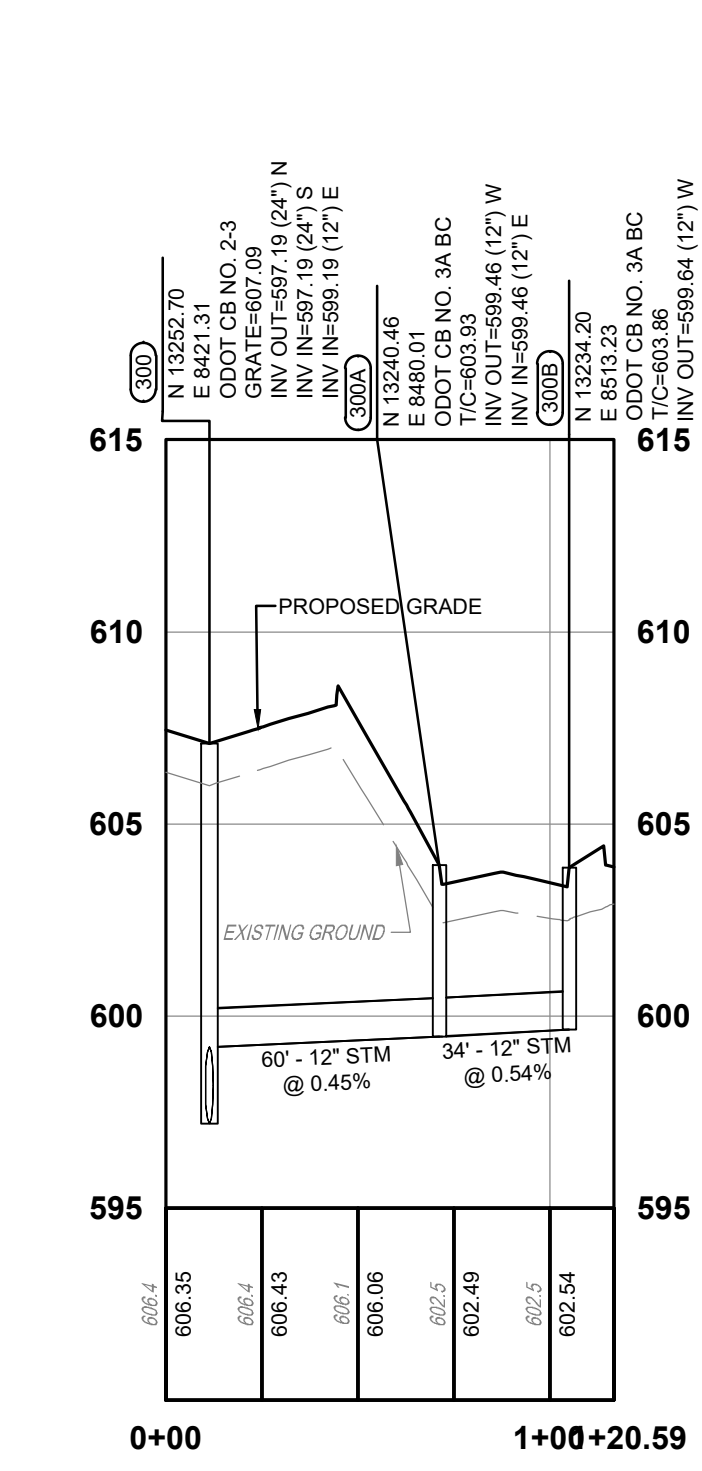
**BUILDING 5 SAN**  
 \* ASSUMED 2.00% LATERAL FROM EXISTING LATERAL TO BUILDING.  
 CONTRACTOR TO CONFIRM INVERT TO BUILDING ON MEP PLANS PRIOR TO INSTALLATION.



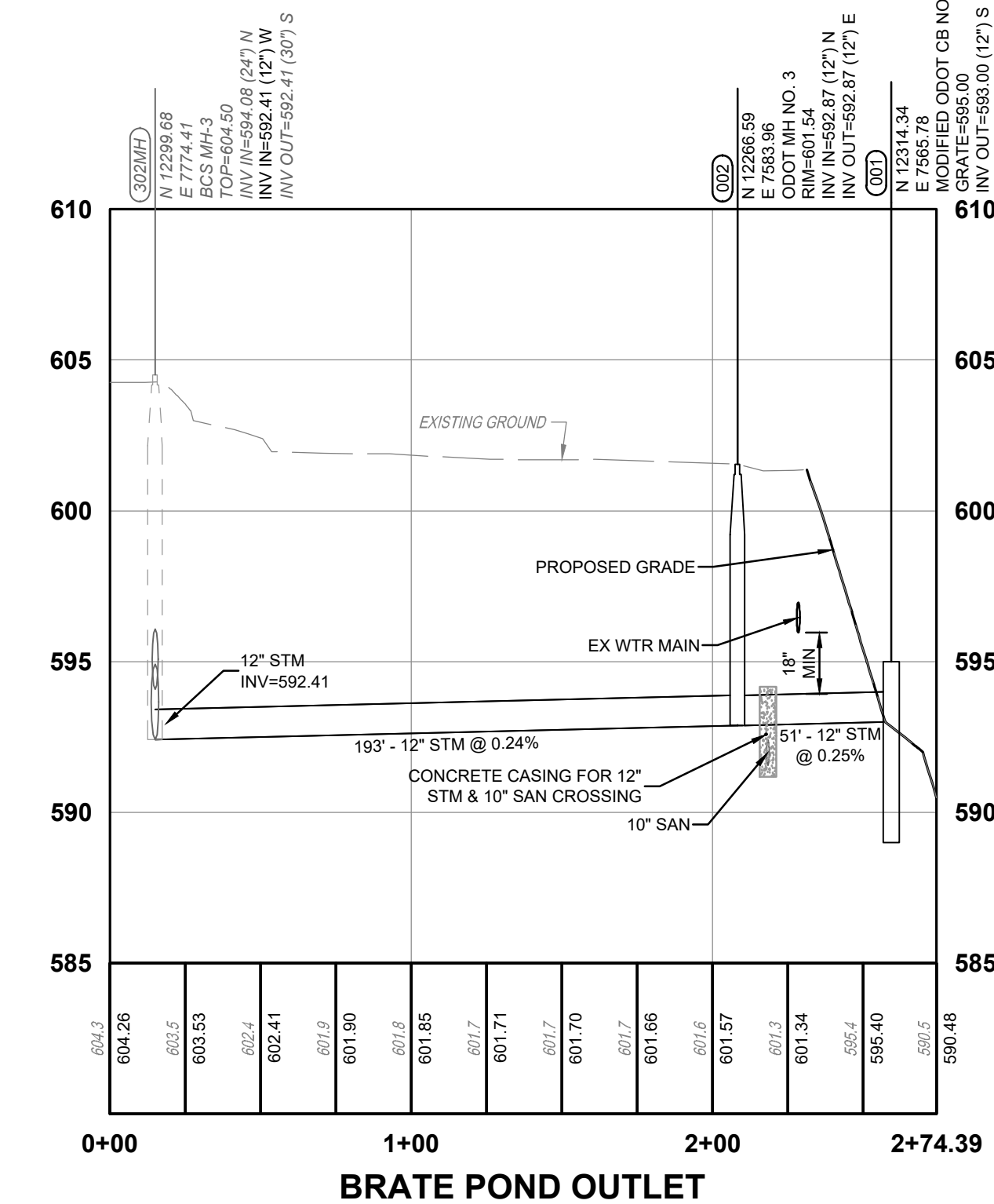
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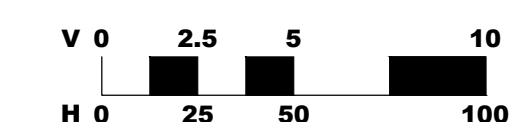
**301-301B STM**



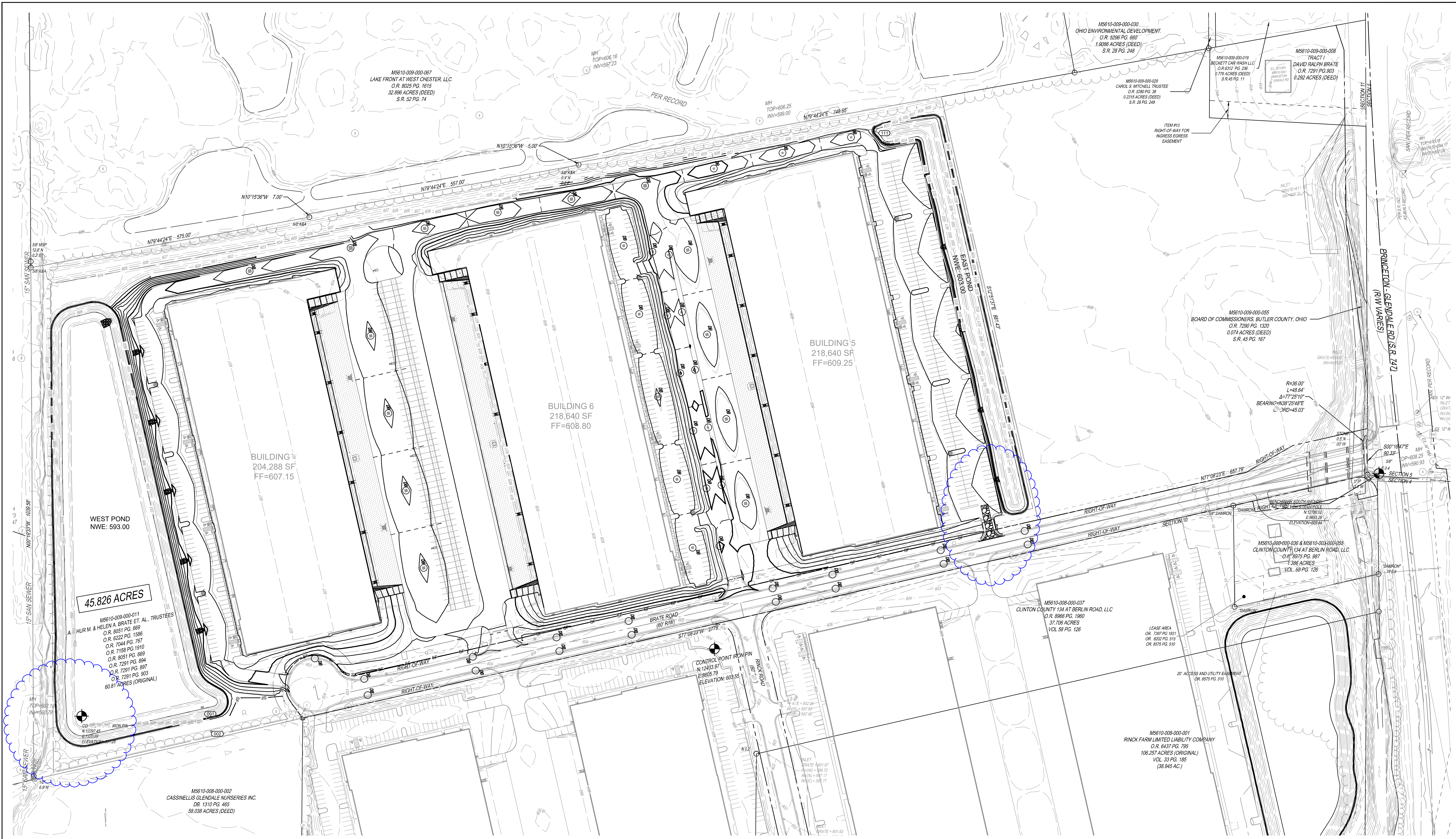
**300-300B STM**



**BRATE POND OUTLET**



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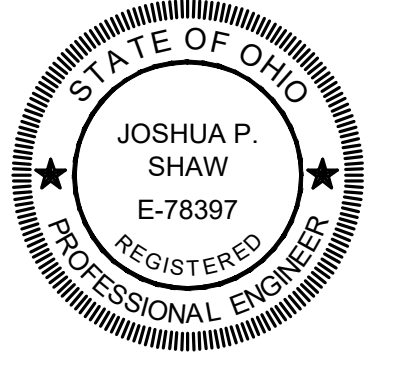
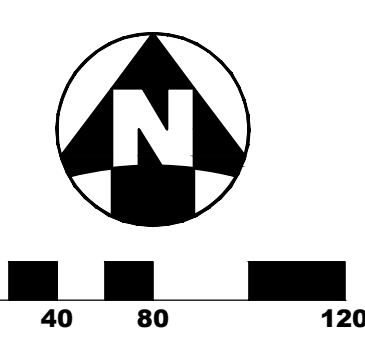


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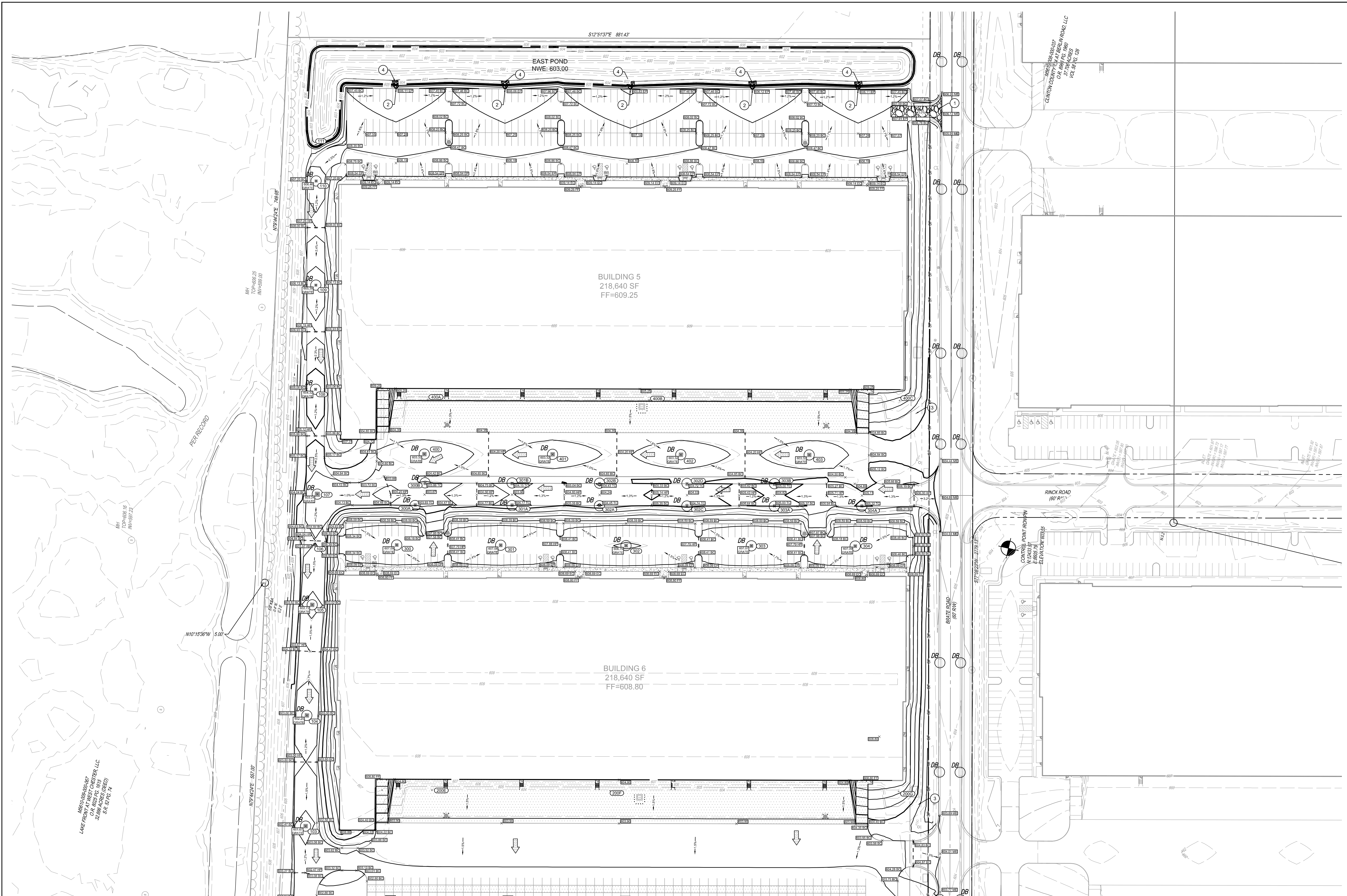
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- GRADING LEGEND**
- EXISTING CONTOUR
  - - - PROPOSED CONTOUR
  - SPOT ELEVATION
  - 100-YEAR FLOOD ROUTE
  - ↘ RUNOFF SLOPE
  - ▲ HIGH POINT
  - SILT FENCE SEE DETAIL 1/C142
  - DANDY BAG SEE DETAIL 3/C142

- GRADING KEYNOTES**
- 1 CONSTRUCTION ENTRANCE TO BE MAINTAINED UNTIL DRIVE IS PAVED
  - 2 DRAINAGE CURB CUT
  - 3 METER PIT TOP OF BOX TO BE 6" ABOVE PROPOSED GRADE
  - 4 ROCK PROTECTION OUTLET
  - 5 FLOOD ROUTE SPILLWAY

- SPOT ELEVATION LEGEND**
- ×XXX.XX FINISHED PAVEMENT ELEVATION
  - ×XXX.XX EP EDGE OF PAVEMENT ELEVATION
  - ×XXX.XX BC BACK OF CURB ELEVATION
  - ×XXX.XX EC EDGE OF CONCRETE ELEVATION
  - ×XXX.XX HP HIGH POINT ELEVATION
  - ×XXX.XX TC TOP OF CURB ELEVATION
  - ×XXX.XX GRATE TOP OF STRUCTURE GRATE ELEVATION
  - ×XXX.XX ME MATCH EXISTING ELEVATION

**GRADING NOTES**

- 1 EXISTING UTILITIES TO BE PROTECTED DURING EARTHWORK OPERATIONS.
- 2 ALL SPOT ELEVATIONS ARE TO FINISHED PAVEMENT ELEVATIONS UNLESS OTHERWISE NOTED.



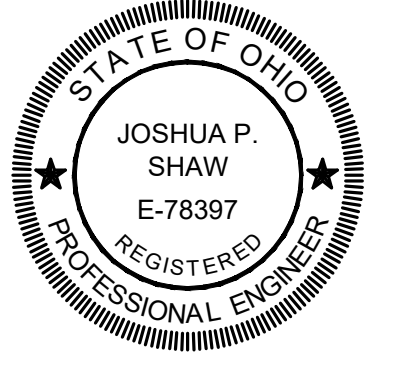
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MP Studio North, LLC  
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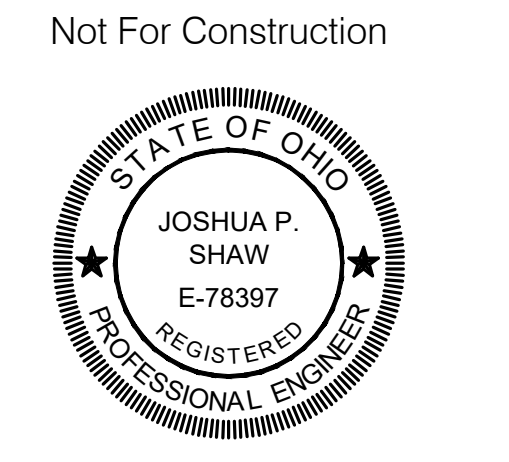
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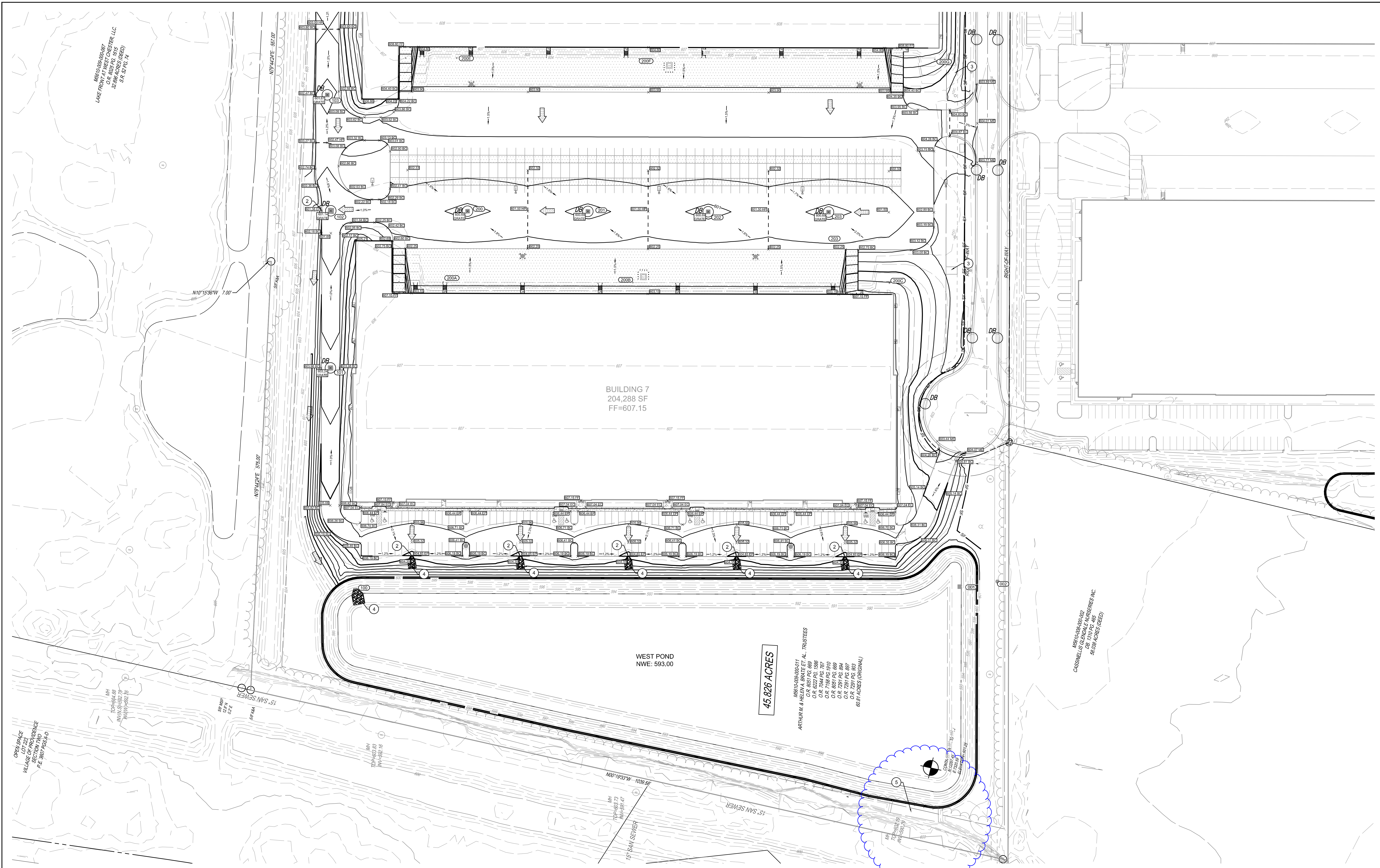
BRATE FARM  
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C402  
ENLARGED GRADING PLAN



**GRADING LEGEND**

- EXISTING CONTOUR
- PROPOSED CONTOUR
- SPOT ELEVATION
- 100-YEAR FLOOD ROUTE
- RUNOFF SLOPE
- HIGH POINT
- SILT FENCE SEE DETAIL 1/C142
- DANDY BAG SEE DETAIL 3/C142

**GRADING KEYNOTES**

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- DRAINAGE CURB CUT
- METER PIT TOP OF BOX TO BE 6" ABOVE PROPOSED GRADE
- ROCK PROTECTION OUTLET
- FLOOD ROUTE SPILLWAY

**SPOT ELEVATION LEGEND**

- XXXX.XX FINISHED PAVEMENT ELEVATION
- XXXX.XX EP EDGE OF PAVEMENT ELEVATION
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- XXXX.XX EC EDGE OF CONCRETE ELEVATION
- XXXX.XX HP HIGH POINT ELEVATION
- XXXX.XX TC TOP OF CURB ELEVATION
- XXXX.XX GRATE TOP OF STRUCTURE GRATE ELEVATION
- XXXX.XX ME MATCH EXISTING ELEVATION

**GRADING NOTES**

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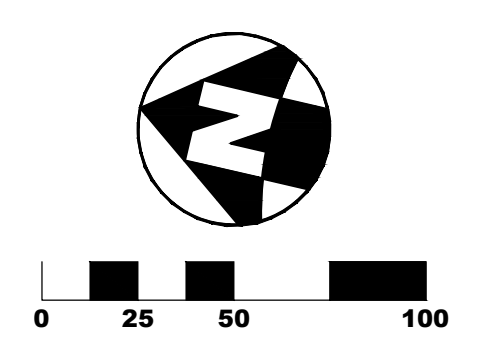
WEST POND  
NWE: 593.00

45.826 ACRES

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O.R. 7244 PG. 1586  
O.R. 7188 PG. 1910  
O.R. 8857 PG. 689  
O.R. 8857 PG. 684  
O.R. 7291 PG. 803  
69.81 ACRES (ORIGINAL)



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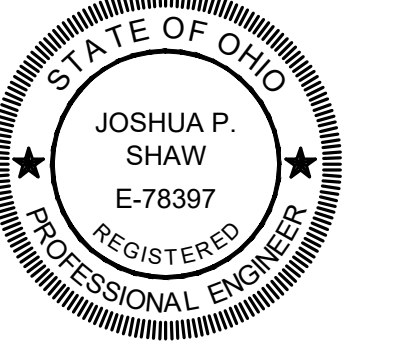


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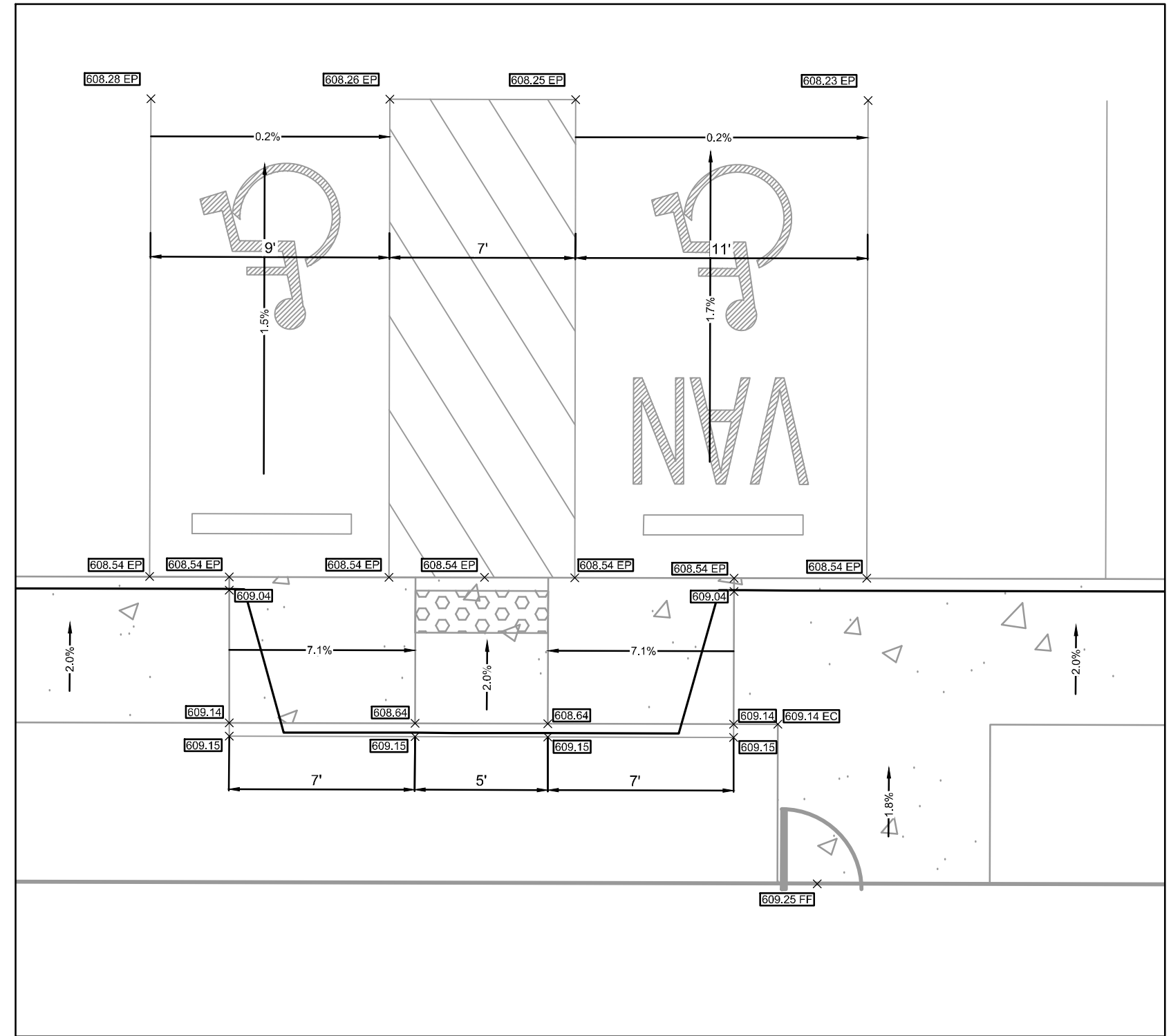
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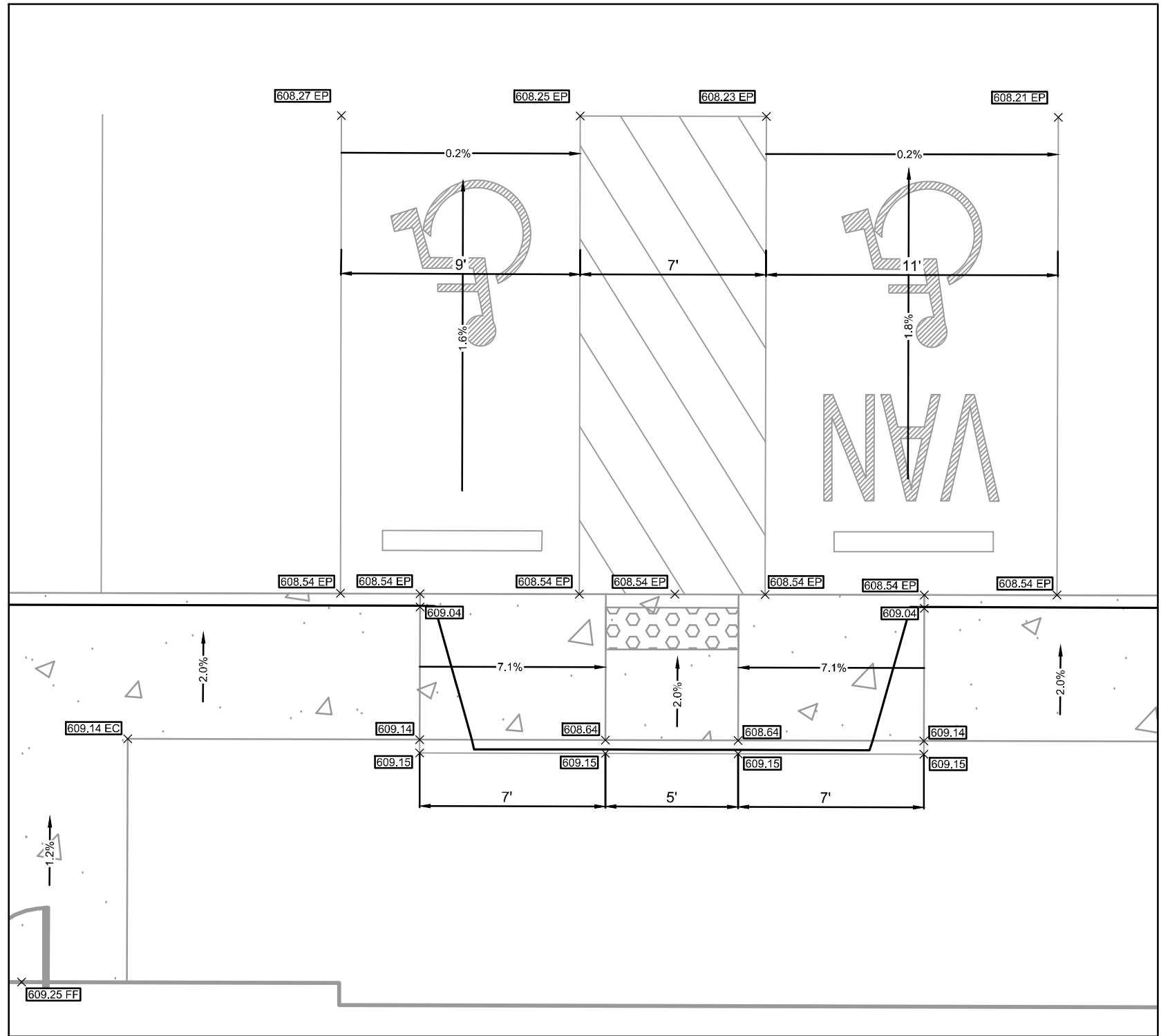
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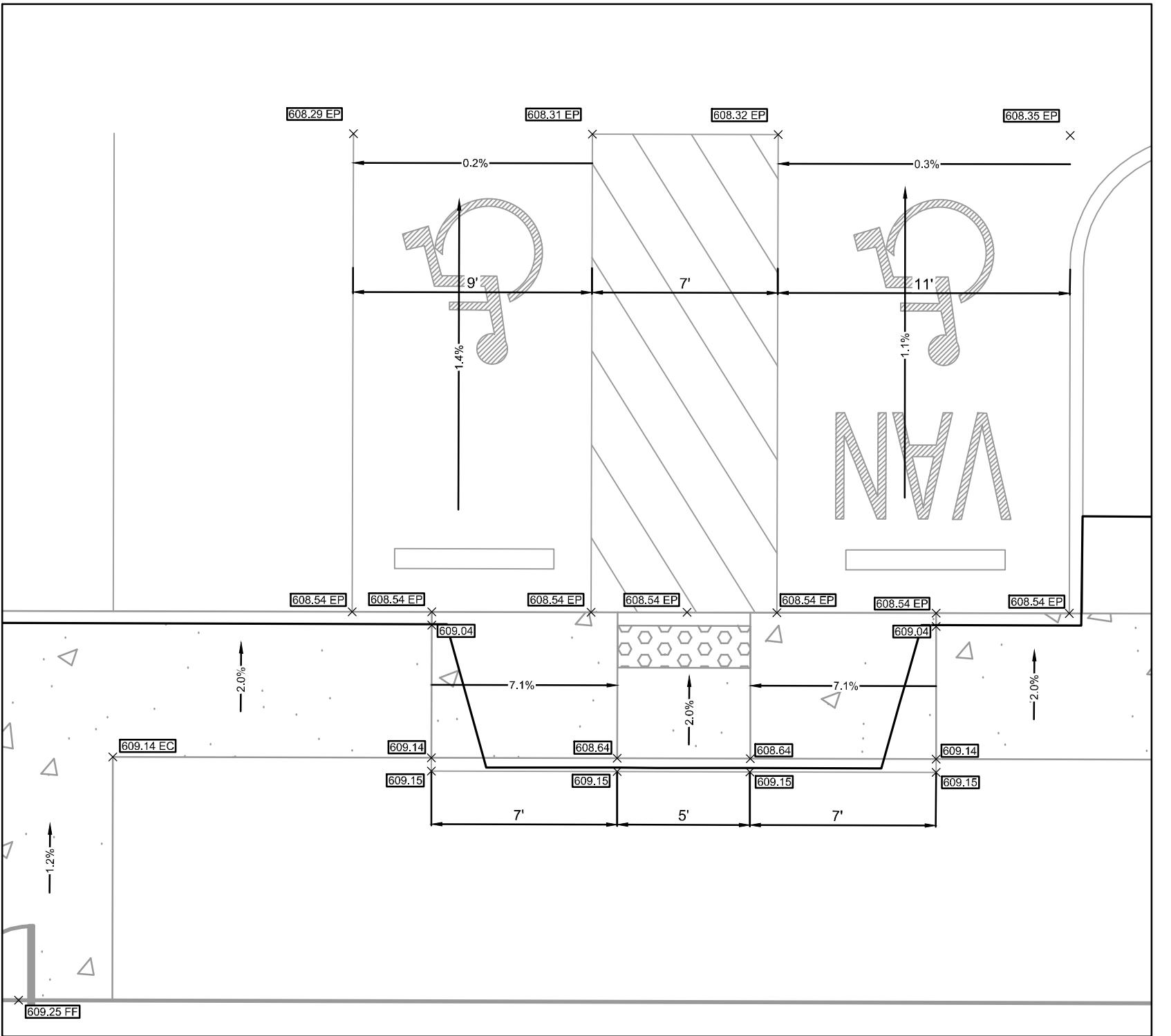
C410  
HANDICAP RAMP GRADING  
DETAILS



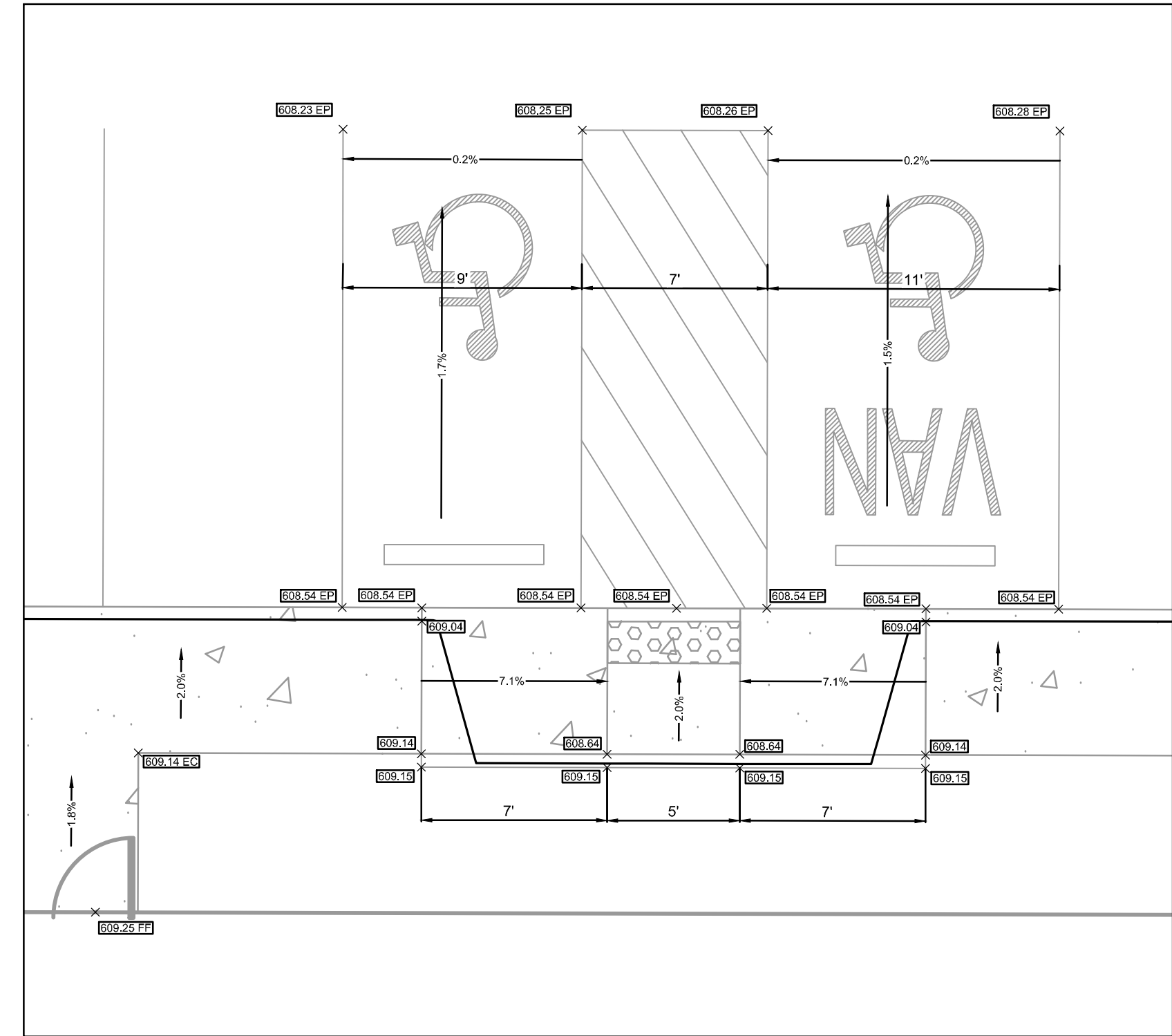
BUILDING 5 N HANDICAP RAMP DETAIL  
1"=5'



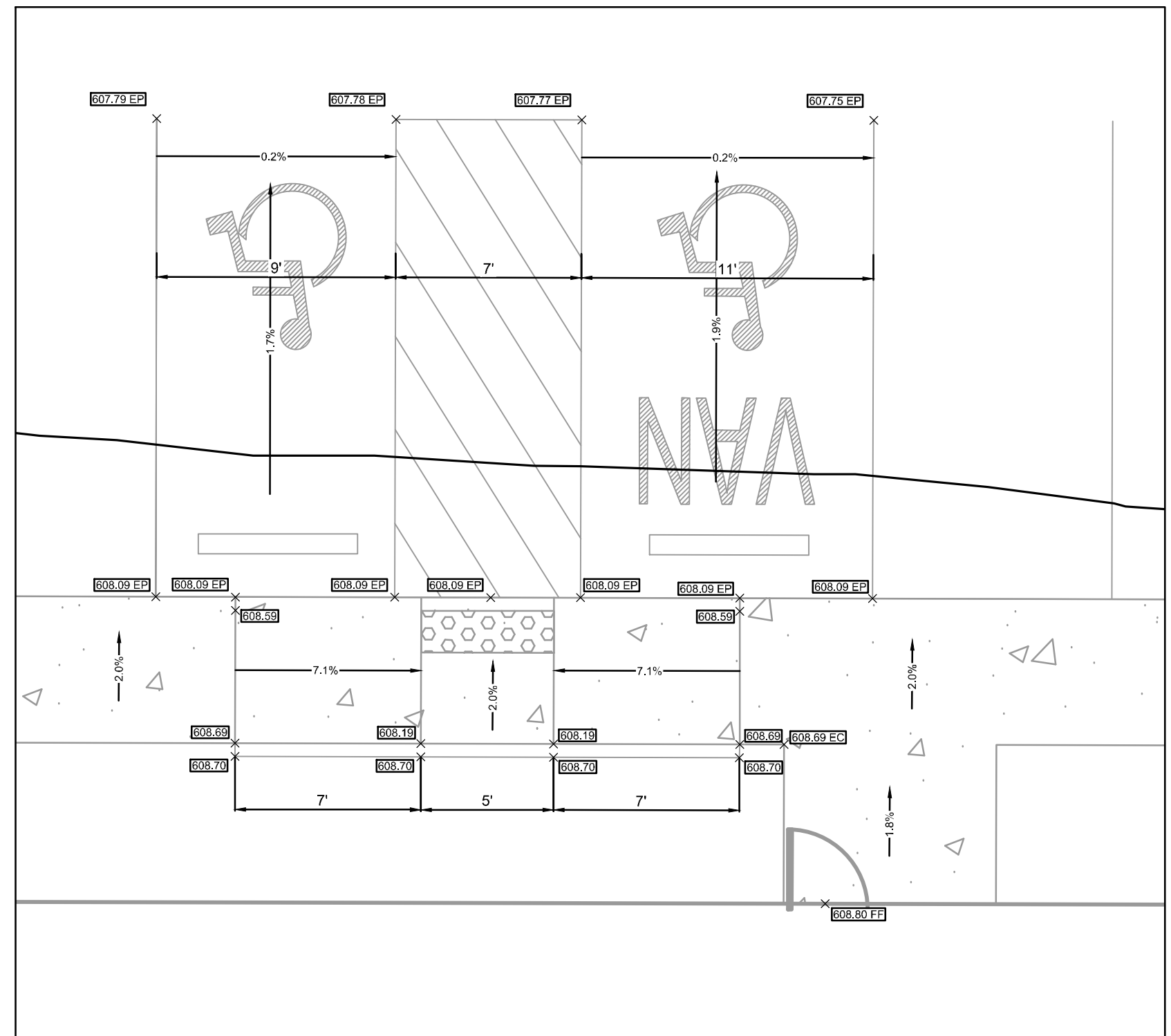
BUILDING 5 NE HANDICAP RAMP DETAIL  
1"=5'



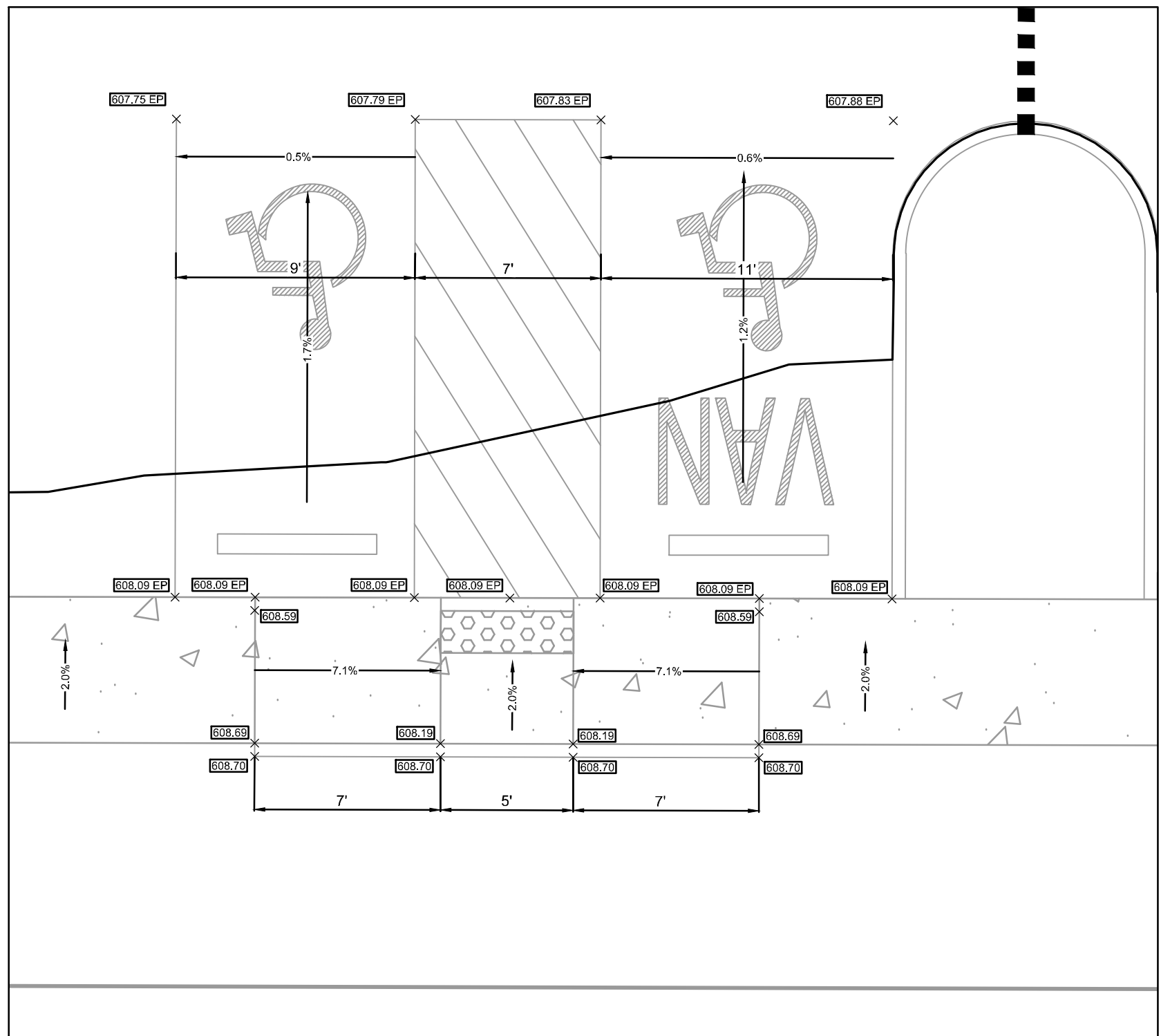
BUILDING 5 SE HANDICAP RAMP DETAIL  
1"=5'



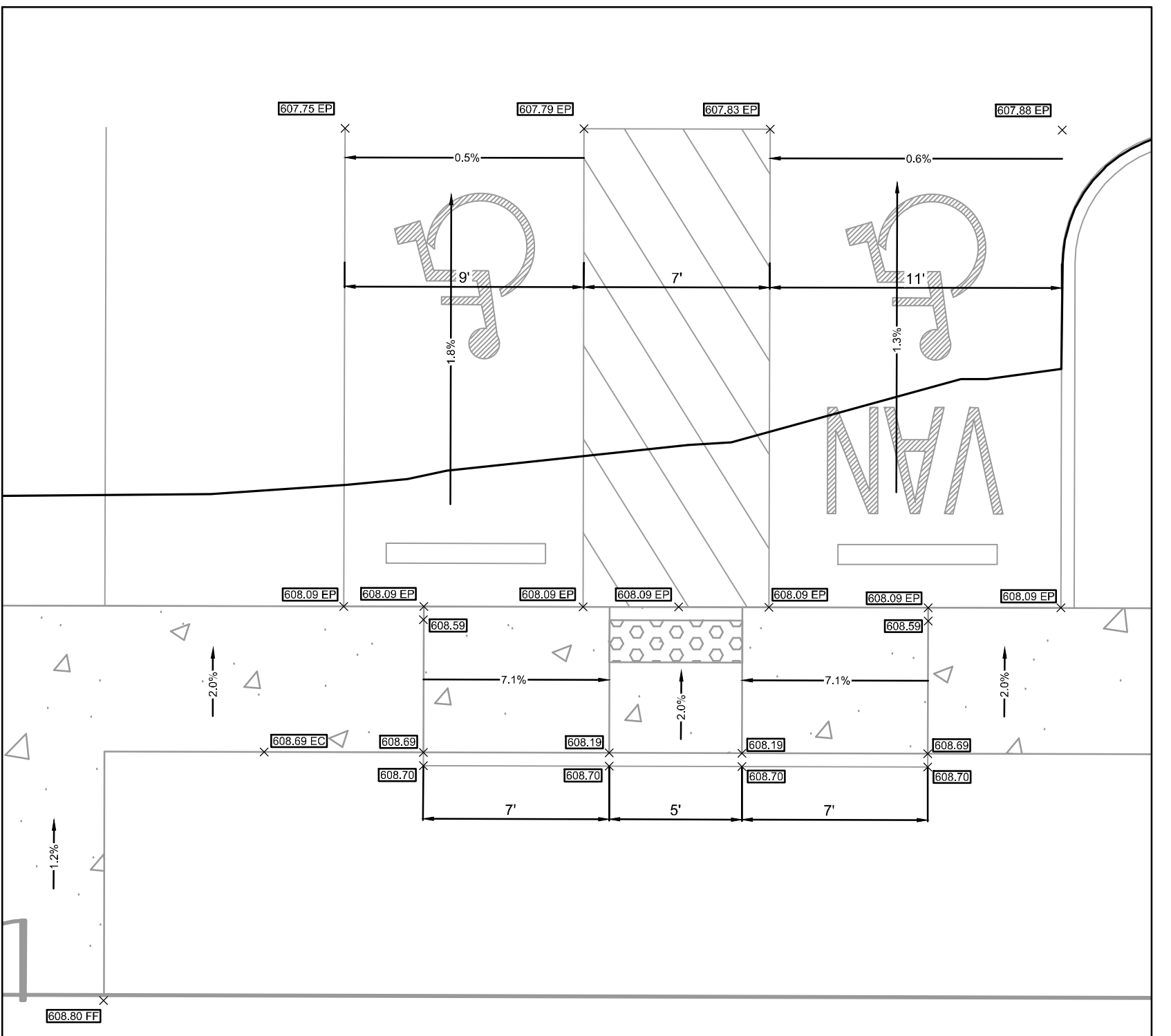
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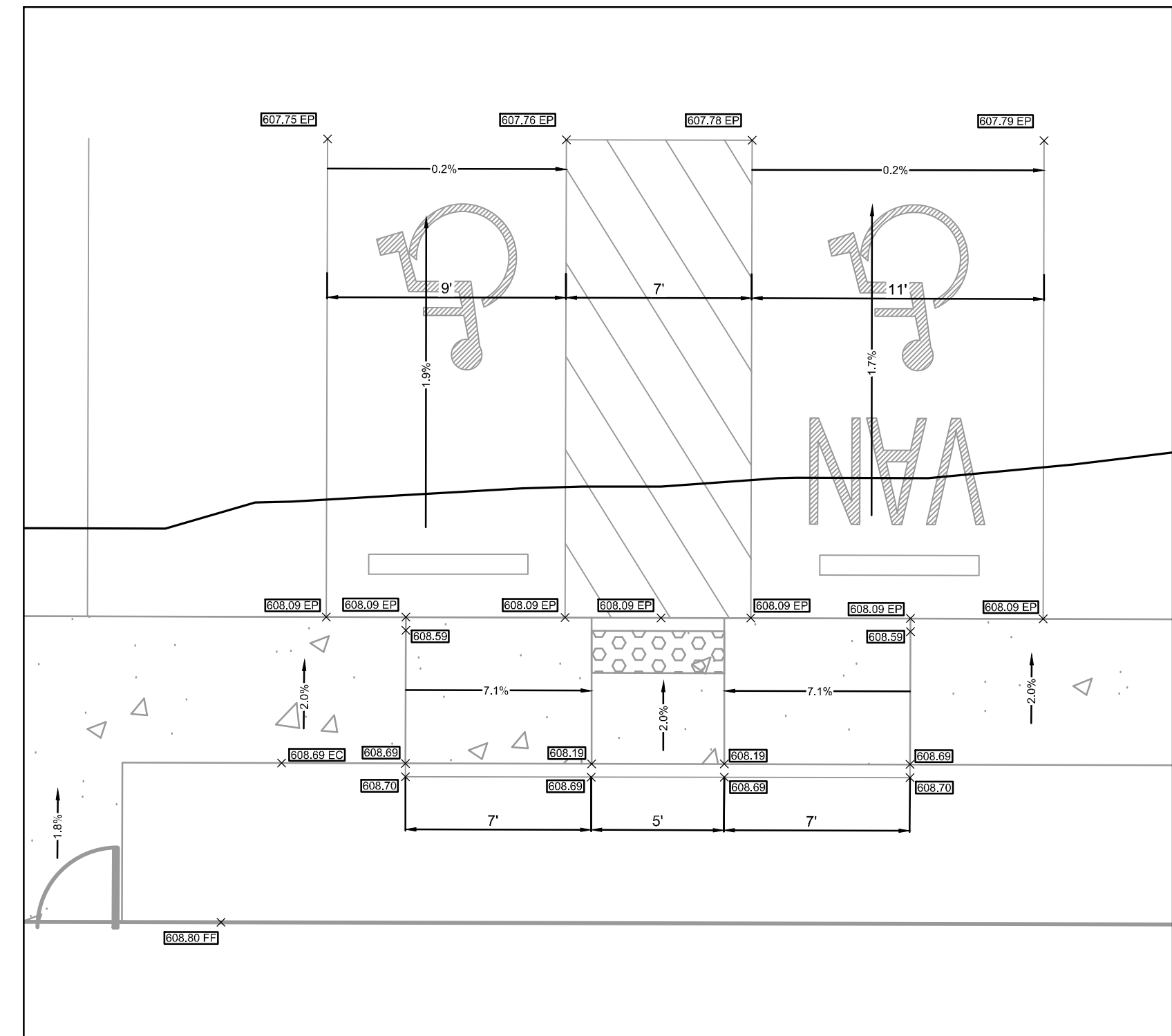
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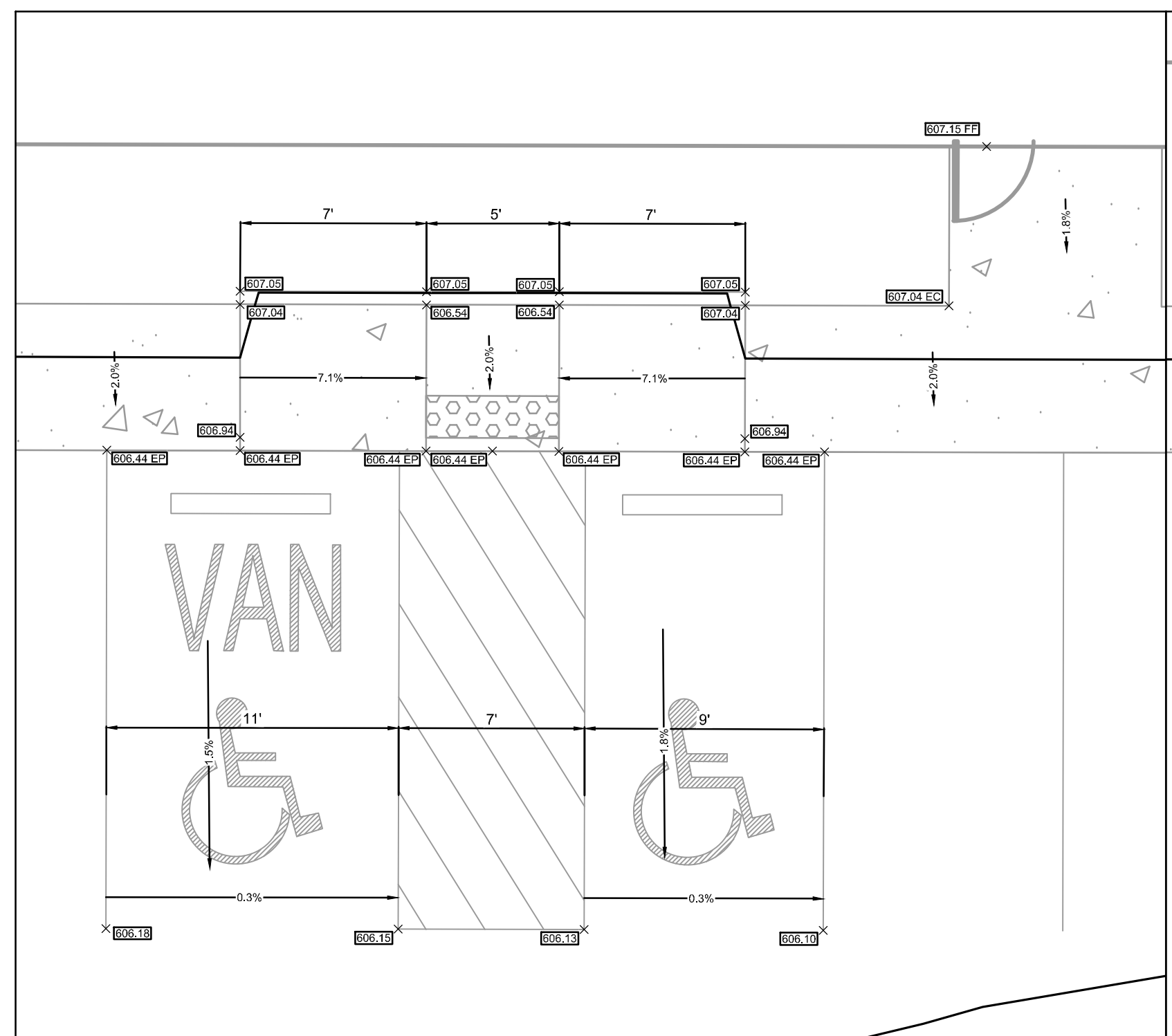
BUILDING 6 NE HANDICAP RAMP DETAIL  
1"=5'



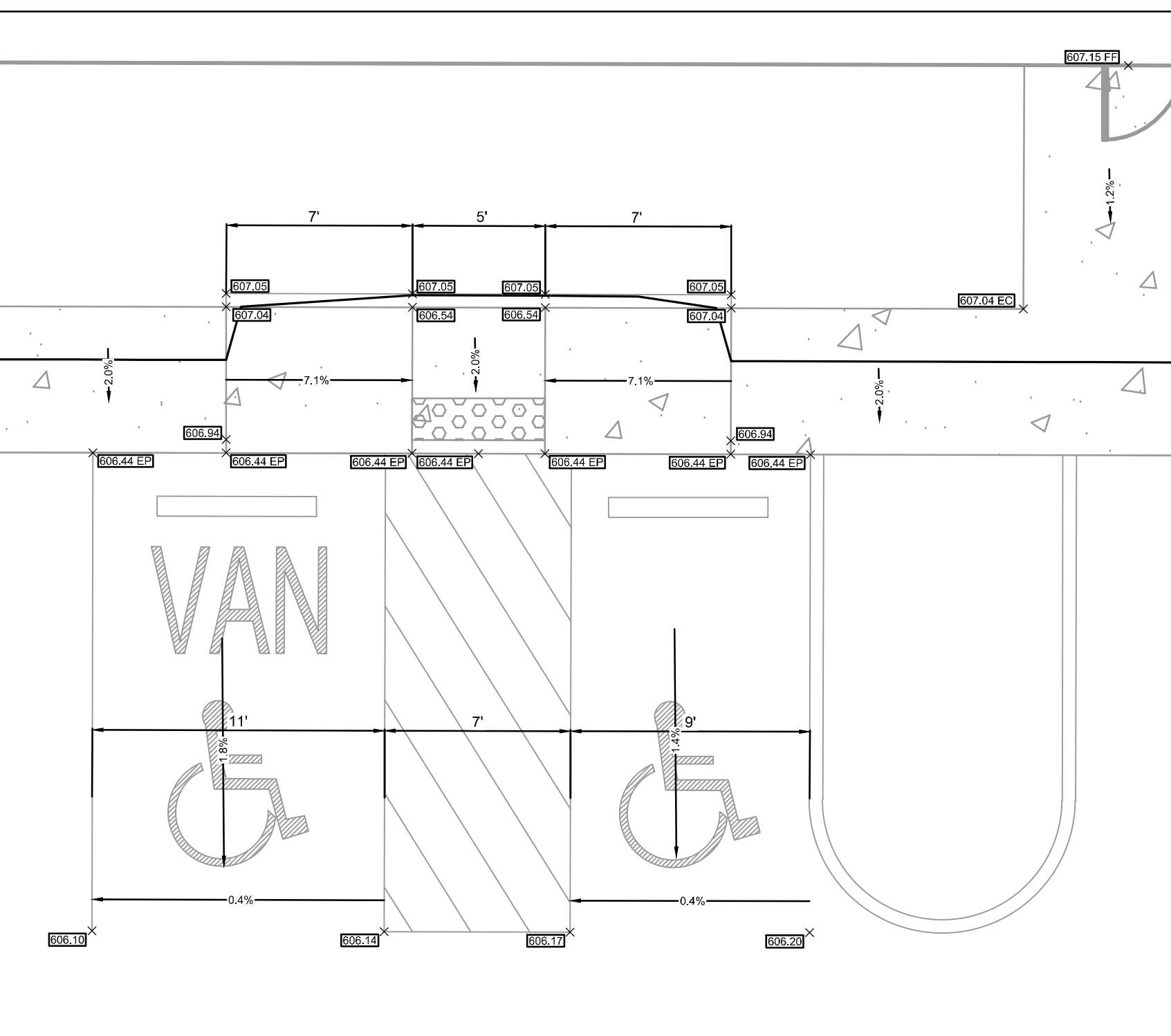
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1"=5'



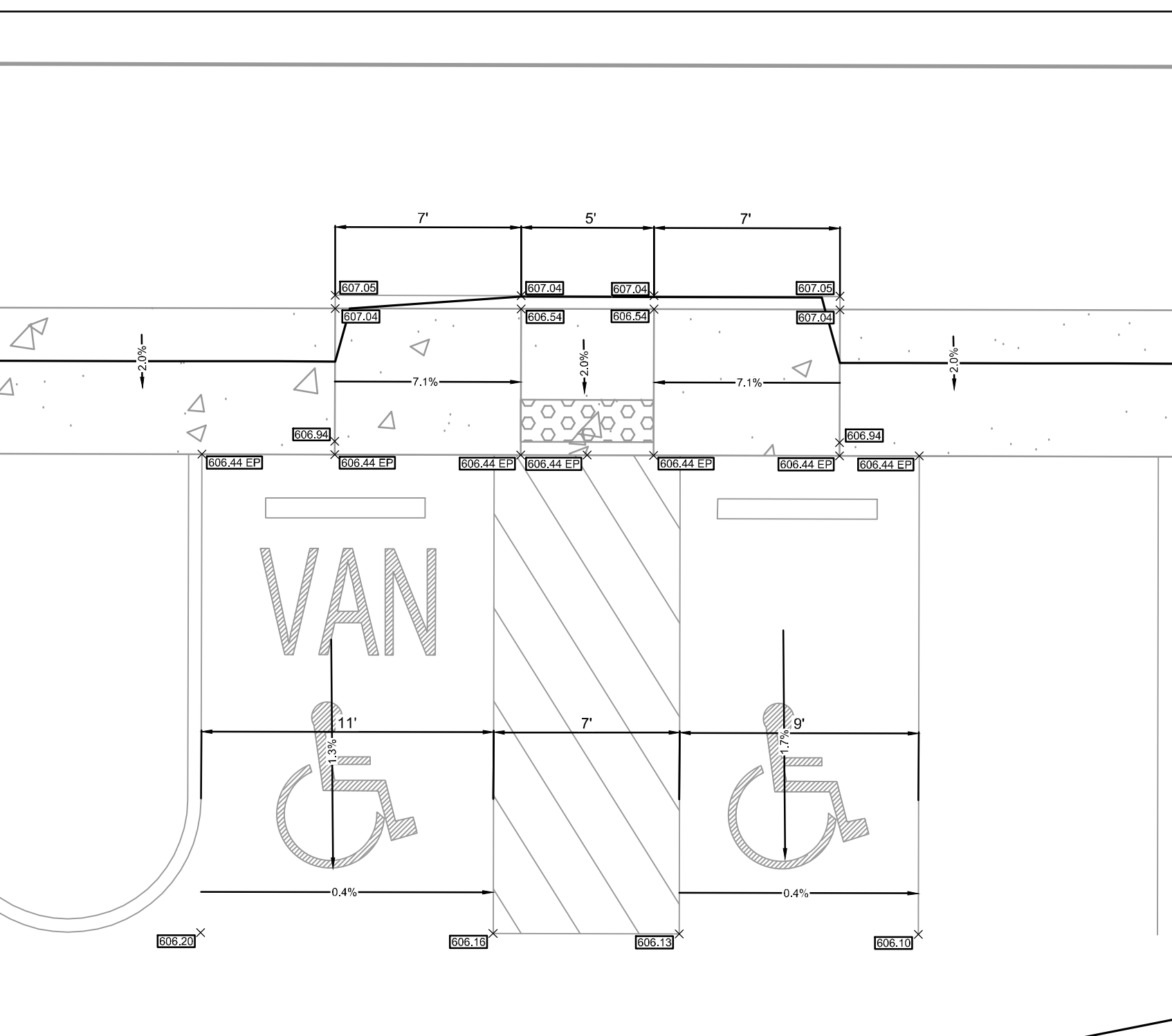
BUILDING 6 S HANDICAP RAMP DETAIL  
1"=5'



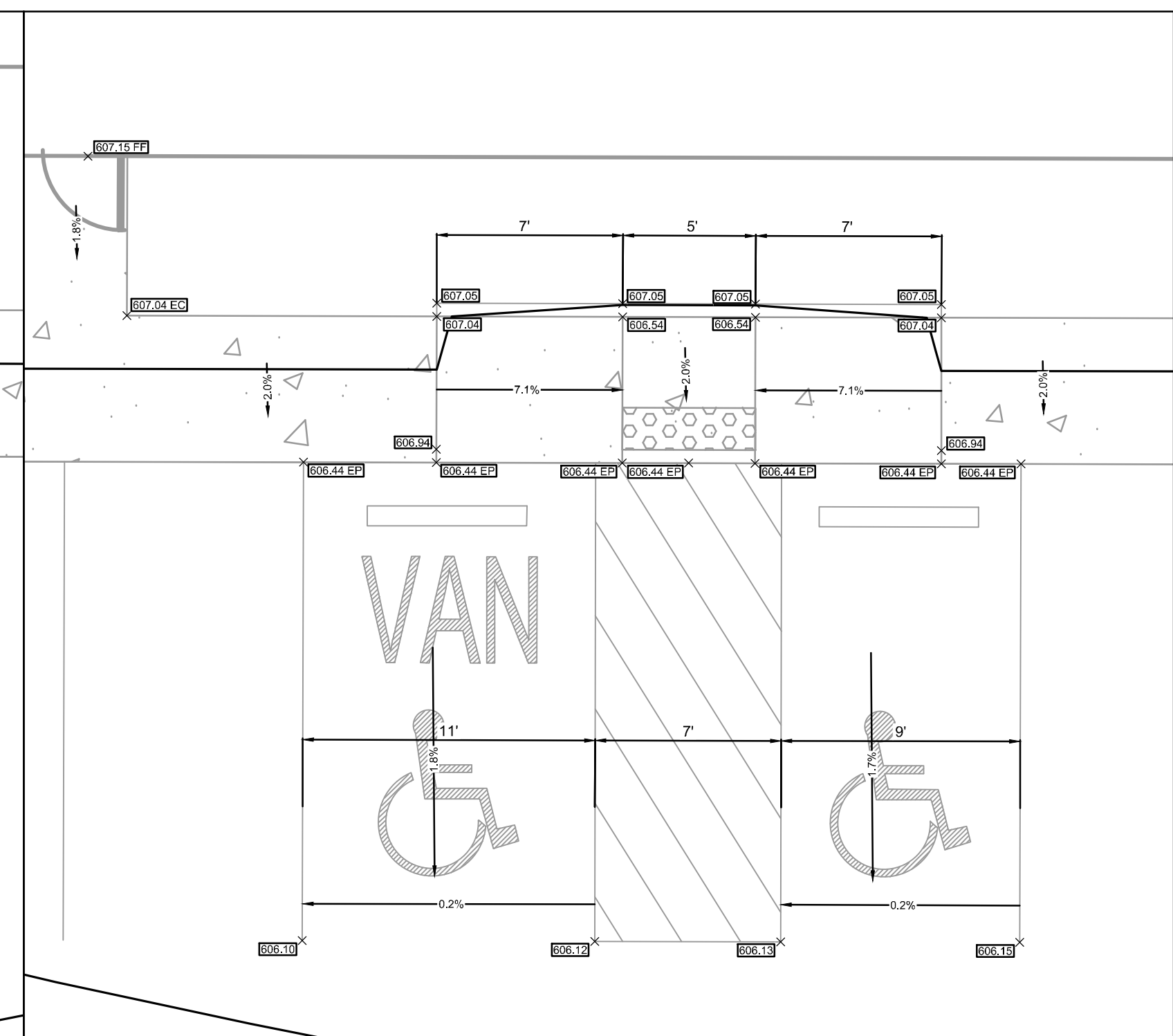
BUILDING 7 N HANDICAP RAMP DETAIL  
1"=5'



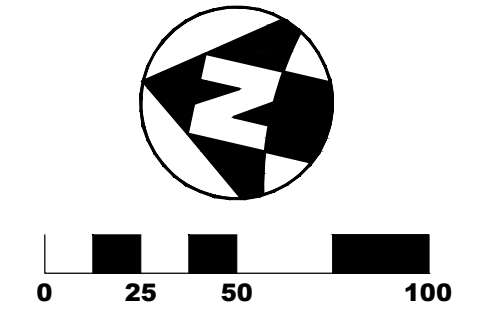
BUILDING 7 NW HANDICAP RAMP DETAIL  
1"=5'



BUILDING 7 SW HANDICAP RAMP DETAIL  
1"=5'



BUILDING 7 S HANDICAP RAMP DETAIL  
1"=5'



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PROJECT DATA

PROJECT DESCRIPTION
DEVELOP THREE INDUSTRIAL BUILDINGS WITH PUBLIC ROAD ACCESS

LATITUDE: N 39°20'52.80"
LONGITUDE: W 84°27'56.16"
ESTIMATED CONSTRUCTIONS DATES: FALL 2019 - SPRING 2022
TOTAL SITE AREA: 42.826 ACRES
TOTAL DISTURBED AREA: 42.05 ACRES
EXISTING IMPERVIOUS AREA: 0 ACRES
PROPOSED IMPERVIOUS AREA: 23.57 ACRES
TOTAL IMPERVIOUS AREA AFTER CONSTRUCTION: 23.57 ACRES
PRE-CONSTRUCTION RUNOFF COEFFICIENT: C=0.30
POST-CONSTRUCTION RUNOFF COEFFICIENT: C=0.66
ULTIMATE RECEIVING STREAM: MILL CREEK
EXISTING LAND USE: AGRICULTURAL FIELD

CONSTRUCTION SEQUENCE

TO COMPLETE THE EXCAVATION AND CONSTRUCTION OF THE PROPOSED JOB IMPROVEMENTS, COORDINATION OF THE CONTRACTOR'S WORK CREWS WILL BE REQUIRED. THE EXISTING DITCHES WILL PERFORM TEMPORARY SEDIMENT CONTROL AND STORAGE DURING THE PROPOSED CONSTRUCTION. WORK WILL GENERALLY PROCEED FROM DOWNSTREAM TO UPSTREAM IN THESE WORK AREAS. THE GENERAL CONSTRUCTION SEQUENCE IS AS FOLLOWS:

- A) INSTALL EROSION CONTROL ITEMS.
B) STRIP TOPSOIL AND ANY UNSUITABLE MATERIAL THROUGH THE INCREMENTAL WORK AREA.
C) INSTALL TEMPORARY DITCH CHECKS IN DOWNSTREAM END OF EXISTING DITCH WITHIN 24 HOURS FOLLOWING THE STRIPPING OPERATION.
D) IF U/G PIPE IS CALLED FOR IN THIS PORTION OF WORK AREA, PIPE CREW WILL INSTALL PIPE AS WELL AS MANHOLES.
E) AS PIPE INSTALLATION PROGRESSES, REPAIR OF THE ROADWAY WILL PROCEED BEHIND IT.
F) ANY DISTURBED OR EXPOSED AREAS SHALL BE STABILIZED PER OEPA TEMPORARY AND PERMANENT STABILIZATION REGULATIONS INCLUDING:
1. SEEDING
2. DITCH MATTING
3. INLET PROTECTION
4. MULCHING
5. WATERING

EMERGENCY ACTION & SPILL PREVENTION PLAN

THE SCOPE OF WORK COVERED BY THIS PLAN INCLUDES EMERGENCY RESPONSE TO SPILLS, CONTAINMENT OF SPILLED LIQUIDS, EMERGENCY NOTIFICATION NUMBERS, AND SOIL EXCAVATION FOR SPILL CLEAN-UP.

IN THE EVENT OF A SPILL EVENT THE EMPLOYEE SHALL ASSESS THE SPILL AND IMMEDIATELY NOTIFY THE SAFETY OFFICER AND SUPERVISOR IN CHARGE, OR OTHER INDIVIDUALS AS LISTED BELOW.

Table with 3 columns: TITLE, NAME, PHONE NUMBER. Rows include SITE SUPERINTENDENT and PROJECT ENGINEER.

IMMEDIATELY AFTER NOTIFICATION, THE EMPLOYEE WILL BE DIRECTED BY THE SAFETY OFFICER, OR RESPONSIBLE PARTY TO START CONTAINMENT PROCEDURES TO PREVENT THE MATERIAL FROM REACHING THE STORM SEWERS, DRAINAGE DITCH, AND OTHER OUTLETS USING THE FOLLOWING ACTIONS OR ANY OTHER MEANS NECESSARY WITHOUT COMPROMISING WORKER SAFETY:

- 1) CLEAR PERSONNEL FROM THE SPILL AREA AND ROPE OFF AREA.
2) STOP THE SPILL.
3) USE SORBENT MATERIALS, PLUG PUTTY, OR HOLE PUTTY AS NECESSARY TO CONTROL THE SPILL AT THE SOURCE.
4) CONSTRUCT A TEMPORARY CONTAINMENT DIKE OF SORBENT MATERIALS OR DIRT TO CONTAIN SPILL.

SPILL KITS WILL BE LOCATED ON THE PROJECT AS DESIGNATED ON THE SWPPP PLAN.

UPON COMPLETION OF CONTAINMENT OPERATIONS, PROPER CLEAN-UP PROCEDURES WILL BE IMPLEMENTED IN ACCORDANCE WITH REGULATORY PROCEDURES.

Table with 2 columns: ADDITIONAL EMERGENCY CONTACT NUMBERS, 24 HOUR PHONE NO. Row includes OHIO EPA with phone number 614-728-3898.

GENERAL NOTES

THE CONTRACTOR IS HEREBY ADVISED THAT STRICTER POLLUTION CONTROL STANDARDS AND ENFORCEMENT HAVE BEEN IMPOSED BY THE OHIO EPA SINCE MARCH 10, 2003 AND WITH A REVISION IN APRIL 2018. ALSO, MANY PRIVATE CITIZEN ENVIRONMENTAL GROUPS, WHO HAVE BEEN KNOWN TO FILE CIVIL LEGAL ACTIONS, ARE PRESENT IN THE AREA AND OBSERVE ALL CONSTRUCTION OPERATIONS.

THE CONTRACTOR SHALL INFORM ALL SUBCONTRACTORS OF THE REQUIREMENTS AND RESPONSIBILITIES OF THE SWPPP AND SHALL DOCUMENT ALL SUCH NOTIFICATIONS AND/OR DISCUSSIONS.

THE CONTRACTOR WILL BE REQUIRED TO PARTICIPATE IN SEDIMENT AND EROSION CONTROL INSPECTIONS ON A WEEKLY BASIS AND SIGN AN APPROVED INSPECTION SHEET THAT SHALL BE KEPT ON FILE AT THE JOB SITE.

UNLESS OTHERWISE NOTED, STANDARDS AND SPECIFICATIONS ESTABLISHED IN THE LATEST EDITION OF THE OEPA "RAINWATER AND LAND DEVELOPMENT" HANDBOOK SHALL GOVERN THE EROSION AND SEDIMENT CONTROL INSTALLATIONS SPECIFIED ON THIS PLAN.

THIS PROJECT WILL INVOLVE SEVERAL CONSTRUCTION PHASES AND SEQUENCING THROUGHOUT ITS LIFETIME. IT IS VERY IMPORTANT THAT ALL TEMPORARY SEDIMENT AND EROSION CONTROL (S&EC) FIELD METHODS ALONG WITH THIS PLAN, ARE UPDATED TO REFLECT THE ACTUAL FIELD CONDITIONS, CURRENT WEATHER CONDITIONS AND SITE GRADE CHANGES. THE ENGINEER OR THE OHIO EPA CAN AND WILL MODIFY THIS PLAN AS NECESSARY.

THE CONTRACTOR WILL VOLUNTARILY SELF REPORT ANY POTENTIAL VIOLATIONS OF THE OEPA NPDES PERMIT TO THE ENGINEER AND THE OEPA.

THE CONTRACTOR SHALL REMOVE EXISTING GROUND COVER ONLY AS NECESSARY FOR THE PROJECT PHASE CURRENTLY UNDER CONSTRUCTION.

CONSTRUCTION AND DEMOLITION DEBRIS SHALL BE PROPERLY DISPOSED OF ACCORDING TO OHIO EPA REQUIREMENTS.

THE CONTRACTOR WILL BE REQUIRED TO BUILD SEDIMENT BASINS OR SEDIMENT TRAPS OR USE EQUAL METHODS TO DETAIN AND CLEAN WATER TO ACCEPTABLE EPA STANDARDS BEFORE RELEASING THE WATER BACK INTO THE STREAM.

THERE SHALL BE NO TURBID DISCHARGES TO SURFACE WATERS, RESULTING FROM DEWATERING ACTIVITIES. SEDIMENT-LADEN WATER MUST PASS THROUGH A SETTLING POND, FILTER BAG, OR OTHER COMPARABLE PRACTICE, PRIOR TO DISCHARGE.

NO SOLID OR LIQUID WASTE SHALL BE DISCHARGED INTO STORM WATER RUNOFF.

ALL PROCESS WASTEWATER (EQUIPMENT WASHING, LEACHATE FROM ON-SITE WASTE DISPOSAL, ETC.) SHALL BE COLLECTED AND DISPOSED OF AT A PUBLICLY OWNED TREATMENT WORKS.

ALL CONSTRUCTION ACTIVITIES MUST COMPLY WITH ALL LOCAL EROSION/SEDIMENT CONTROL, WASTE DISPOSAL, SANITARY AND HEALTH REGULATIONS.

OTHER EROSION CONTROL ITEMS MAY BE NECESSARY DUE TO ENVIRONMENTAL CONDITIONS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR INSTALLATION AND IMPLEMENTATION OF ADDITIONAL EROSION CONTROL ITEMS, AT THE ENGINEER'S DISCRETION.

NO SOIL, ROCK, DEBRIS OR OTHER MATERIAL SHALL BE DUMPED OR PLACED IN ANY AREAS NOT ADEQUATELY PROTECTED BY EROSION CONTROL INSTALLATIONS.

IT IS PREFERRED TO USE PERMANENT EROSION CONTROL ITEMS AS SHOWN IN THE PLANS TO CONTROL CONSTRUCTION POLLUTION WHEN POSSIBLE. OTHERWISE, THE TEMPORARY POLLUTION PREVENTION ITEMS ARE TO BE USED.

MOST TEMPORARY S&EC METHODS, INCLUDING BUT NOT LIMITED TO, SILT FENCE AND DITCH CHECKS MAY ALL HAVE TO BE PERIODICALLY REMOVED AND REPLACED, OR MOVED FROM THE EXISTING ROAD DITCH OR STRIPPED AREAS AS WORK PROGRESSES. ANY CHANGES SHALL BE NOTED IN THE PLAN BY RED LINE AND DATED ON A CORRECTIVE ACTION LOG.

ALL TEMPORARY SEDIMENT CONTROLS AND STORM WATER QUALITY METHODS WILL BE BUILT/INSTALLED AS THE PROJECT PROGRESSES TO ELIMINATE UNNECESSARY DISTURBANCE AND REDUNDANCY. ALL TEMPORARY CONTROLS SHALL BE IN PLACE AND FUNCTIONING PROPERLY WHEN THREATENING WEATHER IS IMMINENT.

"TEMPORARY STABILIZATION" MEANS THE ESTABLISHMENT OF TEMPORARY VEGETATION, MULCHING, GEOTEXTILES, SOD, PRESERVATION OF EXISTING VEGETATION AND OTHER TECHNIQUES CAPABLE OF QUICKLY ESTABLISHING COVER OVER DISTURBED AREAS TO PROVIDE EROSION CONTROL BETWEEN CONSTRUCTION OPERATIONS.

"PERMANENT STABILIZATION" MEANS THE ESTABLISHMENT OF PERMANENT VEGETATION, DECORATIVE LANDSCAPE MULCHING, MATTING, SOD, RIP RAP AND LANDSCAPING TECHNIQUES TO PROVIDE PERMANENT EROSION CONTROL ON AREAS WHERE CONSTRUCTION OPERATIONS ARE COMPLETE OR WHERE NO FURTHER DISTURBANCE IS EXPECTED FOR AT LEAST A YEAR.

OFF-SITE TRACKING OF SEDIMENTS SHALL BE MINIMIZED. A STABILIZED CONSTRUCTION ENTRANCE WILL BE PROVIDED TO HELP REDUCE VEHICLE TRACKING OF SEDIMENTS. ALL PAVED STREETS ADJACENT TO THE SITE WILL BE SWEPT DAILY TO REMOVE ANY EXCESS MUD, DIRT OR ROCK TRACKED FROM THE SITE. DUMP TRUCKS HAULING MATERIAL FROM THE CONSTRUCTION SITE WILL BE COVERED WITH A TARP.

STABILIZATION PRACTICES

PERMANENT SEEDING AND MULCHING STABILIZATION SHALL BE PROVIDED PER OEPA GUIDELINES AS SET FORTH IN PART II.B OF OHIO EPA PERMIT NO.: OHC000005. (SEE TABLE 1)

TABLE 1: PERMANENT STABILIZATION. Table with 2 columns: AREA REQUIRING PERMANENT STABILIZATION, TIME FRAME TO APPLY EROSION CONTROLS. Rows include areas requiring stabilization for one year or more, and areas requiring stabilization at final grade.

TEMPORARY SEEDING AND MULCHING STABILIZATION SHALL BE PROVIDED PER OEPA GUIDELINES AS SET FORTH IN PART II.B OF OHIO EPA PERMIT NO.: OHC000005. (SEE TABLE 2)

TABLE 2: TEMPORARY STABILIZATION. Table with 2 columns: AREA REQUIRING TEMPORARY STABILIZATION, TIME FRAME TO APPLY EROSION CONTROLS. Rows include areas requiring stabilization for more than 14 days, and areas requiring stabilization at final grade.

ALL TEMPORARY EROSION AND SEDIMENT CONTROL INSTALLATIONS SHALL BE REMOVED WHEN 70% VEGETATION HAS BEEN REACHED.

SEEDING & MULCHING

MULCH AND/OR OTHER APPROPRIATE VEGETATIVE PRACTICES SHALL BE APPLIED TO DISTURBED AREAS WITHIN 7 DAYS OF GRADING IF THE AREA IS TO REMAIN DORMANT (UNDISTURBED) FOR MORE THAN 14 DAYS OR ON AREAS AND PORTIONS OF THE SITE WHICH CAN BE BROUGHT TO FINAL GRADE.

MULCH SHALL CONSIST OF UNROTTED SMALL GRAIN STRAW APPLIED AT THE RATE OF 2 TONS/AC, OR 90 LB./1000 SQ. FT. (TWO TO THREE BALES). THE STRAW MULCH SHALL BE SPREAD UNIFORMLY BY HAND OR MECHANICALLY SO THE SOIL SURFACE IS COVERED. FOR UNIFORM DISTRIBUTION OF HAND-SPREAD MULCH, DIVIDE AREA INTO APPROXIMATELY 1000-SQ.-FT. SECTIONS AND PLACE TWO 45-LB. BALES OF STRAW IN EACH SECTION.

MULCH SHALL BE ANCHORED IMMEDIATELY TO MINIMIZE LOSS BY WIND OR RUNOFF. THE FOLLOWING ARE ACCEPTABLE METHODS FOR ANCHORING MULCH:

- 1) MECHANICAL-USE A DISK, CRIMPER, OR SIMILAR TYPE TOOL SET STRAIGHT TO PUNCH OR ANCHOR THE MULCH MATERIAL INTO THE SOIL. STRAW MECHANICALLY ANCHORED SHALL NOT BE FINELY CHOPPED BUT BE LEFT GENERALLY LONGER THAN 6 IN.
2) MULCH NETTINGS-USE ACCORDING TO THE MANUFACTURER'S RECOMMENDATIONS, FOLLOWING ALL PLACEMENT AND ANCHORING SUGGESTIONS. USE IN AREAS OF WATER CONCENTRATION AND STEEP SLOPES TO HOLD MULCH IN PLACE.
3) SYNTHETIC BINDERS-FOR STRAW MULCH, SYNTHETIC BINDERS SUCH AS ACRYLIC DLR (AGRI-TAC), DCA-70, PETROSET, TERRA TACK OR EQUAL MAY BE USED AT RATES RECOMMENDED BY THE MANUFACTURER. ALL APPLICATIONS OF SYNTHETIC BINDERS MUST BE CONDUCTED IN SUCH A MANNER WHERE THERE IS NO CONTACT WITH WATERS OF THE STATE.
4) WOOD CELLULOSE FIBER - WOOD CELLULOSE FIBER MAY BE USED FOR ANCHORING STRAW. THE FIBER BINDER SHALL BE APPLIED AT A NET DRY WEIGHT OF 750 LB./ACRE. THE WOOD CELLULOSE FIBER SHALL BE MIXED WITH WATER AND THE MIXTURE SHALL CONTAIN A MAXIMUM OF 50 LB./100 GAL. OF WOOD CELLULOSE FIBER.

TEMPORARY SEEDING & MULCHING FOR EROSION CONTROL. Table with 3 columns: SEED TYPE, PER 1,000 SQ FT, PER ACRE. Rows include Perennial Ryegrass, Tall Fescue, Annual Ryegrass, Small Grain Straw, and Fertilizer.

NOTE: OTHER APPROVED SPECIES MAY BE SUBSTITUTED

STOCKPILE

SILT FENCING SHALL BE INSTALLED AROUND TEMPORARY SPOIL STOCKPILES. THESE STOCKPILES SHALL BE STRAW MULCHED AND/OR TEMPORARILY SEEDED WITHIN 7 WORKING DAYS IF LEFT DORMANT FOR 14 DAYS OR LONGER.

TIMING OF CONTROLS/MEASURES

AS INDICATED IN THE SEQUENCE OF MAJOR ACTIVITIES, CONSTRUCTION ENTRANCE(S) AND SILT FENCE WILL BE CONSTRUCTED PRIOR TO CLEARING OR GRADING OF ANY OTHER PORTIONS OF THE SITE. SEDIMENT CONTROL DEVICES SHALL BE IMPLEMENTED FOR ALL AREAS REMAINING DISTURBED LONGER THAN 14 DAYS AND/OR WITHIN 7 DAYS OF ANY GRUBBING ACTIVITIES. AREAS WHERE CONSTRUCTION ACTIVITY TEMPORARILY CEASES FOR MORE THAN 14 DAYS WILL BE STABILIZED WITH A TEMPORARY SEED AND MULCH WITHIN 7 DAYS OF THE LAST DISTURBANCE IF THE AREA IS WITHIN 50 FEET OF A STREAM, AND WITHIN 7 DAYS OF THE LAST DISTURBANCE IF THE AREA IS MORE THAN 50 FEET AWAY FROM A STREAM. ONCE CONSTRUCTION ACTIVITY CEASES PERMANENTLY IN AN AREA, THAT AREA WILL BE STABILIZED WITH PERMANENT SEED AND MULCH. AFTER THE ENTIRE SITE IS STABILIZED, THE ACCUMULATED SEDIMENT WILL BE REMOVED FROM THE BASIN.

Table with 2 columns: STABILIZATION TYPE, IRRIGATION NEEDED. Rows include Permanent Seeding, Dormant Seeding, Temporary Seeding, Sodding, and Mulching.

INSPECTIONS

ALL BMPs ON THIS SITE SHALL BE INSPECTED BY "QUALIFIED INSPECTION PERSONNEL" ASSIGNED BY THE CONTRACTOR OR DESIGNATED REPRESENTATIVE AT LEAST ONCE EVERY SEVEN CALENDAR DAYS AND BY THE END OF THE NEXT CALENDAR DAY, EXCLUDING WEEKENDS AND HOLIDAYS UNLESS WORK IS SCHEDULED. AFTER A RAIN EVENT OF 0.5 INCHES PER 24 HOUR PERIOD, A RECORD OF THESE INSPECTIONS SHALL BE MAINTAINED IN THE CONSTRUCTION OFFICE WITH THE SWPPP FOR PUBLIC VIEWING. ANY VIOLATIONS WILL BE REPORTED THROUGH THE PROJECT PERSONNEL. A RAIN GAUGE WILL BE LOCATED WITHIN THE PROJECT LIMITS.

FOLLOWING EACH INSPECTION, A CHECKLIST MUST BE COMPLETED AND SIGNED BY THE QUALIFIED INSPECTION PERSONNEL REPRESENTATIVE. AT A MINIMUM, THE INSPECTION REPORT SHALL INCLUDE:

- 1. THE INSPECTION DATE;
2. NAMES, TITLES, AND QUALIFICATIONS OF PERSONNEL MAKING THE INSPECTION;
3. WEATHER INFORMATION FOR THE PERIOD SINCE THE LAST INSPECTION (OR SINCE COMMENCEMENT OF CONSTRUCTION ACTIVITY IF THE FIRST INSPECTION) INCLUDING A BEST ESTIMATE OF THE BEGINNING OF EACH STORM EVENT, DURATION OF EACH STORM EVENT, APPROXIMATE AMOUNT OF RAINFALL FOR EACH STORM EVENT (IN INCHES), AND WHETHER ANY DISCHARGES OCCURRED;
4. WEATHER INFORMATION AND A DESCRIPTION OF ANY DISCHARGES OCCURRING AT THE TIME OF THE INSPECTION;
5. LOCATION(S) OF DISCHARGES OF SEDIMENT OR OTHER POLLUTANTS FROM THE SITE;
6. LOCATION(S) OF BMPs THAT NEED TO BE MAINTAINED;
7. LOCATION(S) OF BMPs THAT FAILED TO OPERATE AS DESIGNED OR PROVED INADEQUATE FOR A PARTICULAR LOCATION;
8. LOCATION(S) WHERE ADDITIONAL BMPs ARE NEEDED THAT DID NOT EXIST AT THE TIME OF INSPECTION; AND
9. CORRECTIVE ACTION REQUIRED INCLUDING ANY CHANGES TO THE SWP3 NECESSARY AND IMPLEMENTATION DATES.

MAINTENANCE

THE CONTRACTOR SHALL MAINTAIN, REPAIR, OR REPLACE ALL EROSION CONTROL INSTALLATIONS AS NEEDED TO ENSURE THE CONTINUED PERFORMANCE OF THEIR INTENDED FUNCTION. ALL REPAIRS TO BMPs SHALL BE MADE WITHIN 3 DAYS (OR SOONER IF POSSIBLE) OF NOTIFICATION OF DEFICIENCIES. IF THE CORRECTIONS ARE NOT MADE WITHIN THE 3 DAY PERIOD, LIQUIDATED DAMAGES MAY BE ASSESSED AS PER THE ODOT CMS SECTION 108.27.

ONGOING INSPECTION OF INSTALLATIONS WILL BE PERFORMED BY THE CONTRACTOR OR DESIGNATED REPRESENTATIVE.

ANY TRAPPED SEDIMENT OR DEBRIS REMOVED DURING CLEANING OF OR REMOVAL OF BMP INSTALLATIONS SHALL BE PLACED IN AREAS NOT SUBJECT TO EROSION AND PERMANENTLY STABILIZED.

DUST CONTROL

DUST CONTROL INVOLVES PREVENTING OR REDUCING DUST FROM EXPOSED SOILS OR OTHER SOURCES DURING LAND DISTURBING, DEMOLITION AND CONSTRUCTION ACTIVITIES TO REDUCE THE PRESENCE OF AIRBORNE SUBSTANCES WHICH MAY PRESENT HEALTH HAZARDS, TRAFFIC SAFETY PROBLEMS OR HARM ANIMAL OR PLANT LIFE.

THE FOLLOWING SPECIFICATIONS FOR DUST CONTROL SHALL BE FOLLOWED ONSITE:

- 1. VEGETATIVE COVER AND MULCH - APPLY TEMPORARY OR PERMANENT SEEDING AND MULCH TO AREAS THAT WILL REMAIN IDLE FOR OVER 14 DAYS, SAVING EXISTING TREES AND LARGE SHRUBS WILL ALSO REDUCE SOIL AND AIR MOVEMENT ACROSS DISTURBED AREAS. SEE TEMPORARY SEEDING, PERMANENT SEEDING, MULCHING PRACTICES; AND TREE AND NATURAL AREA PROTECTION PRACTICES.
2. WATERING - SPRAY SITE WITH WATER UNTIL THE SURFACE IS WET BEFORE AND DURING GRADING AND REPEAT AS NEEDED, ESPECIALLY ON HAUL ROADS AND OTHER HEAVY TRAFFIC ROUTES. WATERING SHALL BE DONE AT A RATE THAT PREVENTS DUST BUT DOES NOT CAUSE SOIL EROSION. WETTING AGENTS SHALL BE UTILIZED ACCORDING TO MANUFACTURERS INSTRUCTIONS.
3. SPRAY-ON ADHESIVES - APPLY ADHESIVE ACCORDING TO THE FOLLOWING TABLE OR MANUFACTURERS' INSTRUCTIONS.

Table with 4 columns: ADHESIVE, WATER DILUTION (ADHESIVE: WATER), NOZZLE TYPE, APPLICATION RATE (GAL/AC). Rows include Latex Emulsion, Resin in Water Acrylic Emulsion (No Traffic), Acrylic Emulsion (No Traffic), and Acrylic Emulsion (Traffic).

PERMITTEE

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DATE OF ISSUE: 07/02/2019



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BRATE FARM BUILDINGS 5, 6, & 7

Brate Road West Chester, OH 45069

Table with 2 columns: No, Date, Description. Contains project information and revision history.

Not For Construction



C450 EROSION CONTROL NOTES



NOTE: UNDERGROUND UTILITIES ARE PLOTTED FROM A COMPILATION OF AVAILABLE RECORD INFORMATION AND SURFACE INDICATIONS OF UNDERGROUND STRUCTURES AND MAY NOT BE INCLUSIVE. PRECISE LOCATIONS AND THE EXISTENCE OR NON EXISTENCE OF UNDERGROUND UTILITIES CANNOT BE VERIFIED. PLEASE NOTIFY THE OHIO UTILITY PROTECTION SERVICE AT 1-800-362-2764 BEFORE ANY PERIOD OF EXCAVATION OR CONSTRUCTION ACTIVITY.



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CIVIL ENGINEERING  
SURVEYING  
LANDSCAPE ARCHITECTURE



BRATE FARM  
BUILDINGS 5, 6, & 7

Brate Road West Chester, OH 45069

Project No. 160651.004

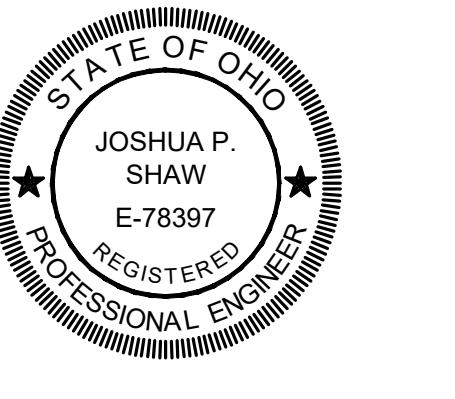
Date: 08.23.19

Issued For: CONSTRUCTION SET

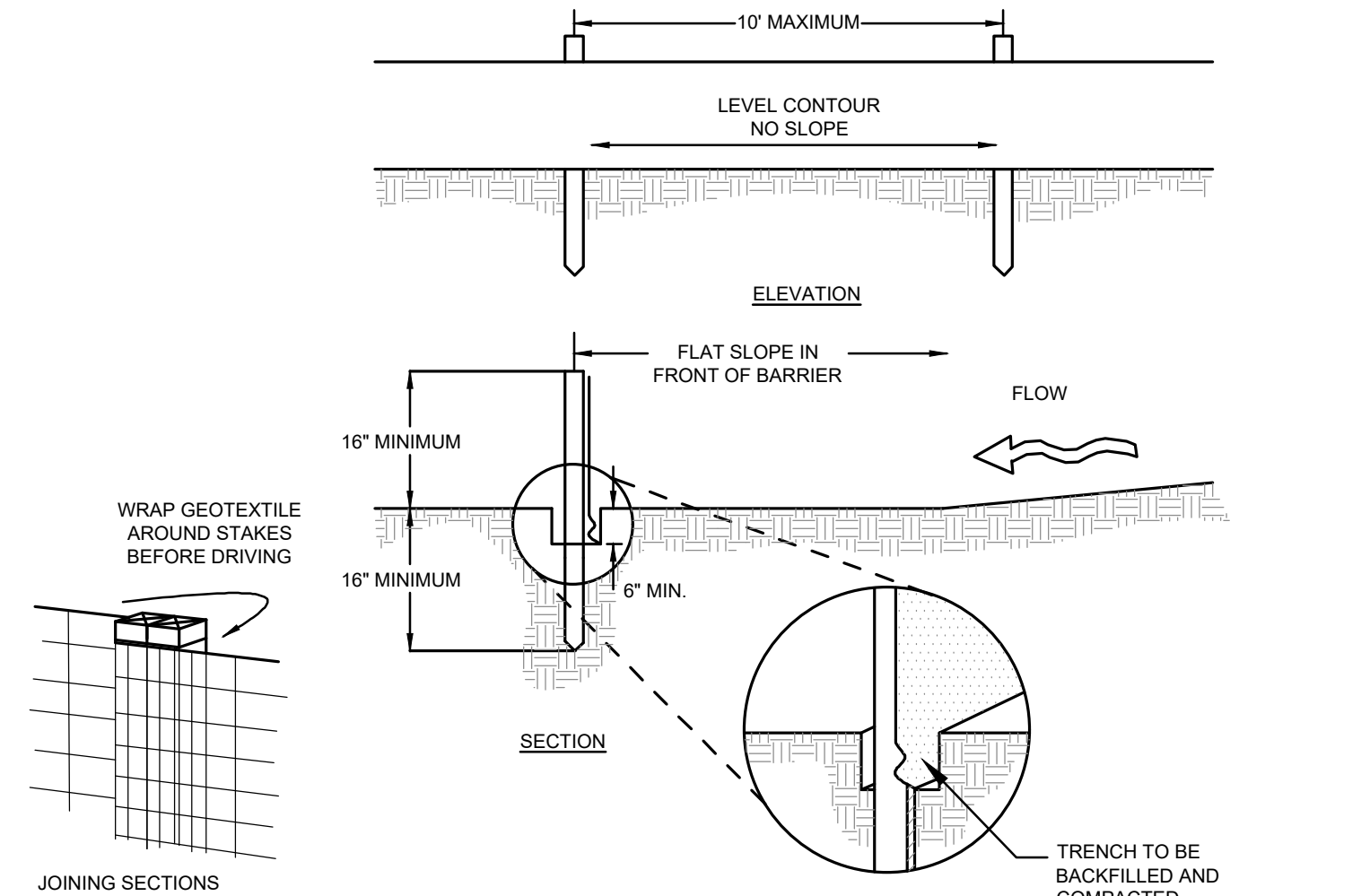
Revisions:

No.	Date	Description

Not For Construction



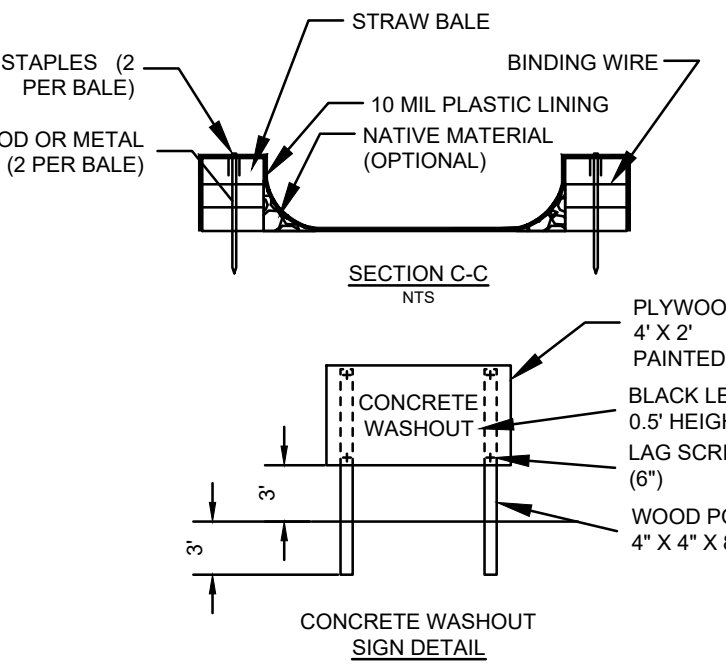
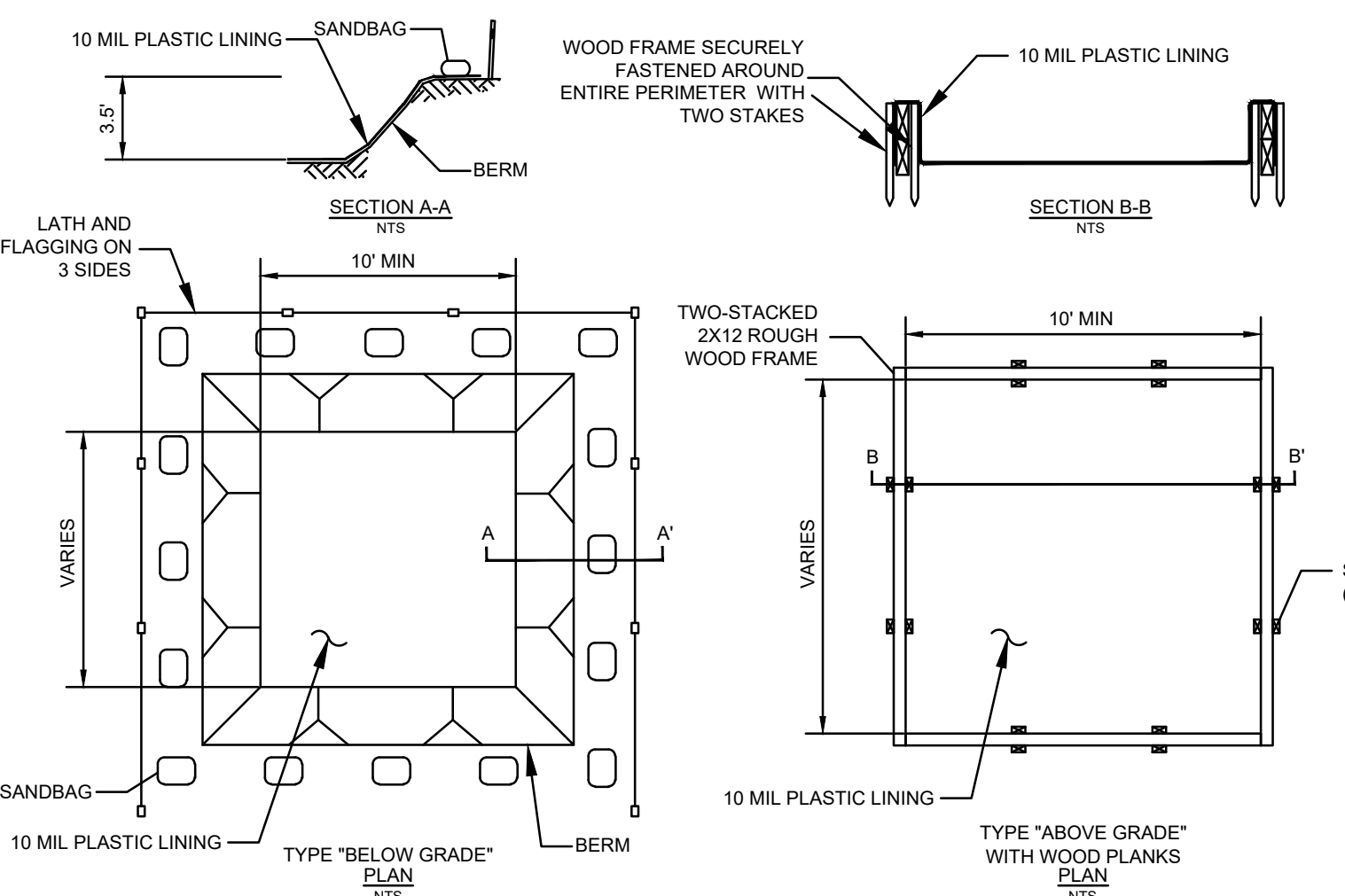
C451  
EROSION CONTROL DETAILS



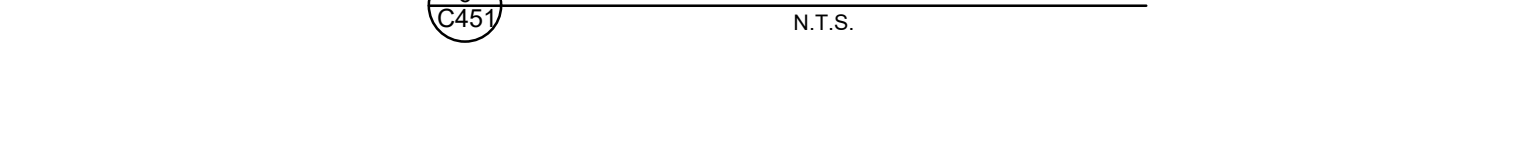
- NOTES:  
1. SILT FENCE SHALL BE CONSTRUCTED BEFORE UPLSLOPE LAND DISTURBANCE BEGINS.  
2. ALL SILT FENCE SHALL BE PLACED AS CLOSE TO THE CONTOUR AS POSSIBLE SO THAT WATER WILL NOT CONCENTRATE AT LOW POINTS IN THE FENCE AND SO THAT SMALL SWALES OR DEPRESSIONS THAT MAY CARRY SMALL CONCENTRATED FLOWS TO THE SILT FENCE ARE DISSIPATED ALONG ITS LENGTH.  
3. ENDS OF THE SILT FENCES SHALL BE BROUGHT UPSLOPE SLIGHTLY SO THAT WATER PONDED BY THE SILT FENCE WILL BE PREVENTED FROM FLOWING AROUND THE ENDS.  
4. SILT FENCE SHALL BE PLACED ON THE FLATTEST AREA AVAILABLE.  
5. WHERE POSSIBLE, VEGETATION SHALL BE PRESERVED FOR 5 FEET (OR AS MUCH AS POSSIBLE) UPSLOPE FROM THE SILT FENCE. IF VEGETATION IS REMOVED, IT SHALL BE REESTABLISHED WITHIN 7 DAYS FROM THE INSTALLATION OF THE SILT FENCE.  
6. THE HEIGHT OF THE SILT FENCE SHALL BE A MINIMUM OF 18 INCHES ABOVE THE ORIGINAL GROUND SURFACE.  
7. THE SILT FENCE SHALL BE PLACED IN AN EXCAVATED OR SLICED TRENCH CUT A MINIMUM OF 6 INCHES DEEP. THE TRENCH SHALL BE MADE WITH A TRENCHER, CABLE LAYING MACHINE, SLICING MACHINE, OR OTHER SUITABLE DEVICE THAT WILL ENSURE AN ADEQUATELY UNIFORM TRENCH DEPTH.  
8. THE SILT FENCE SHALL BE PLACED WITH THE STAKES ON THE DOWN-SLOPE SIDE OF THE GEOTEXTILE. A MINIMUM OF 8 INCHES OF GEOTEXTILE MUST BE BELOW THE GROUND SURFACE. EXCESS MATERIAL SHALL LAY ON THE BOTTOM OF THE 6-INCH DEEP TRENCH. THE TRENCH SHALL BE BACKFILLED AND COMPACTED ON BOTH SIDES OF THE FABRIC.  
9. SEAMS BETWEEN SECTIONS OF SILT FENCE SHALL BE SPLICED TOGETHER ONLY AT A SUPPORT POST WITH A MINIMUM 6-IN OVERLAP PRIOR TO DRIVING INTO THE GROUND.

FABRIC PROPERTIES	VALUES	TEST METHOD
MINIMUM TENSILE STRENGTH	120 LBS. (53N)	ASTM D 4932
MAXIMUM ELONGATION AT BREAK	20%	ASTM D 4932
MINIMUM PUNCTURE STRENGTH	40 LBS. (220 N)	ASTM D 4333
MINIMUM TEAR STRENGTH	40 LBS. (180 N)	ASTM D 4333
APARENT OPENING SIZE	<0.84 MM	ASTM D 4751
MINIMUM PERMITTIVITY	1X10 <sup>5</sup> SEC-1	ASTM D 4491
UV EXPOSURE STRENGTH RETENTION	70%	ASTM G 455

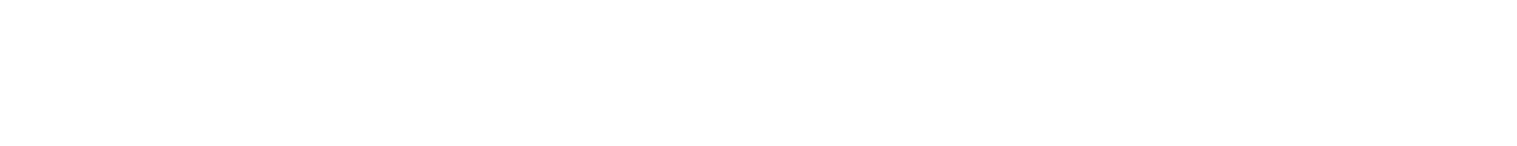
5 C451 SILT FENCE DETAIL N.T.S.



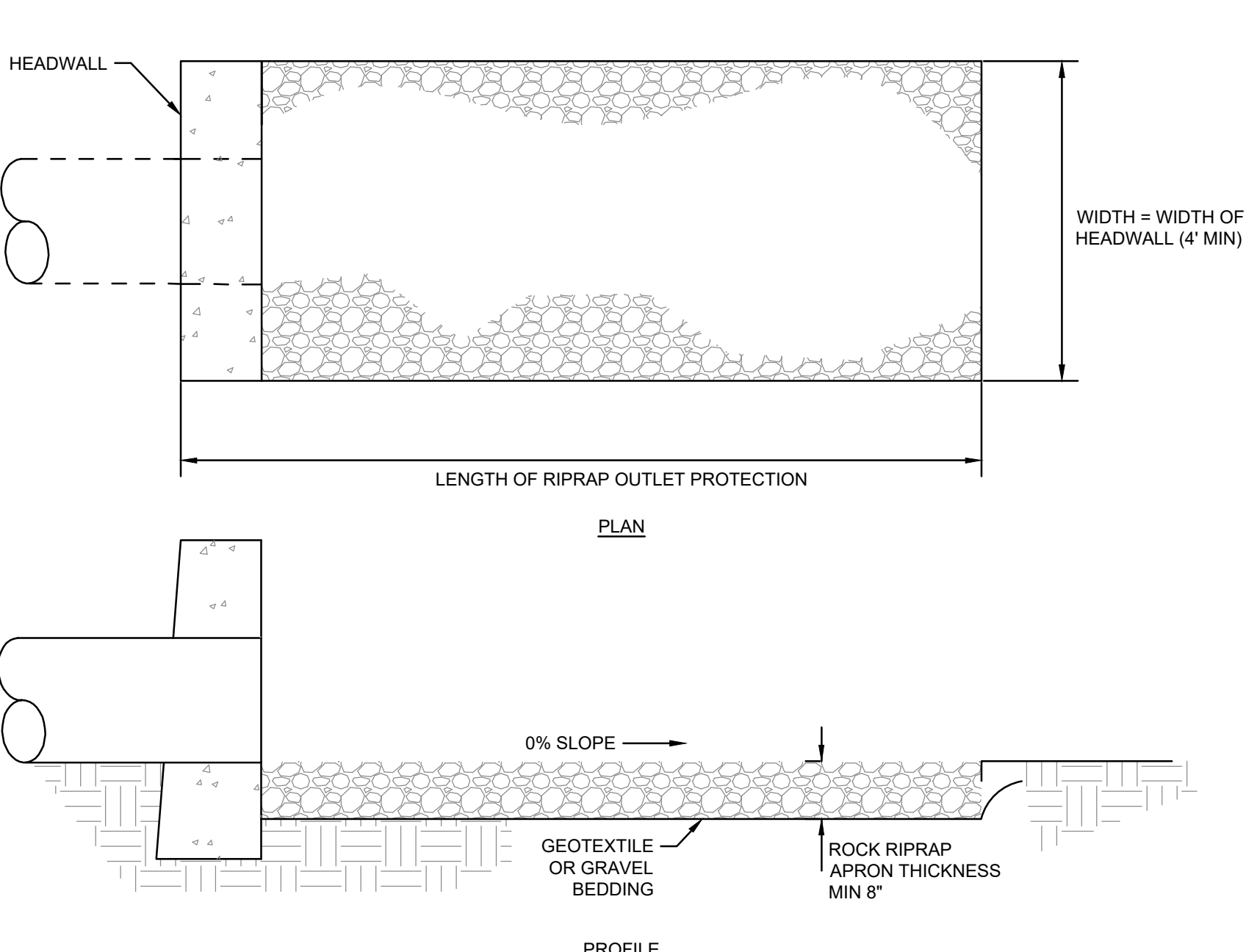
9 C451 DANDY BAG DETAIL N.T.S.



8 C451 CONSTRUCTION ENTRANCE DETAIL N.T.S.

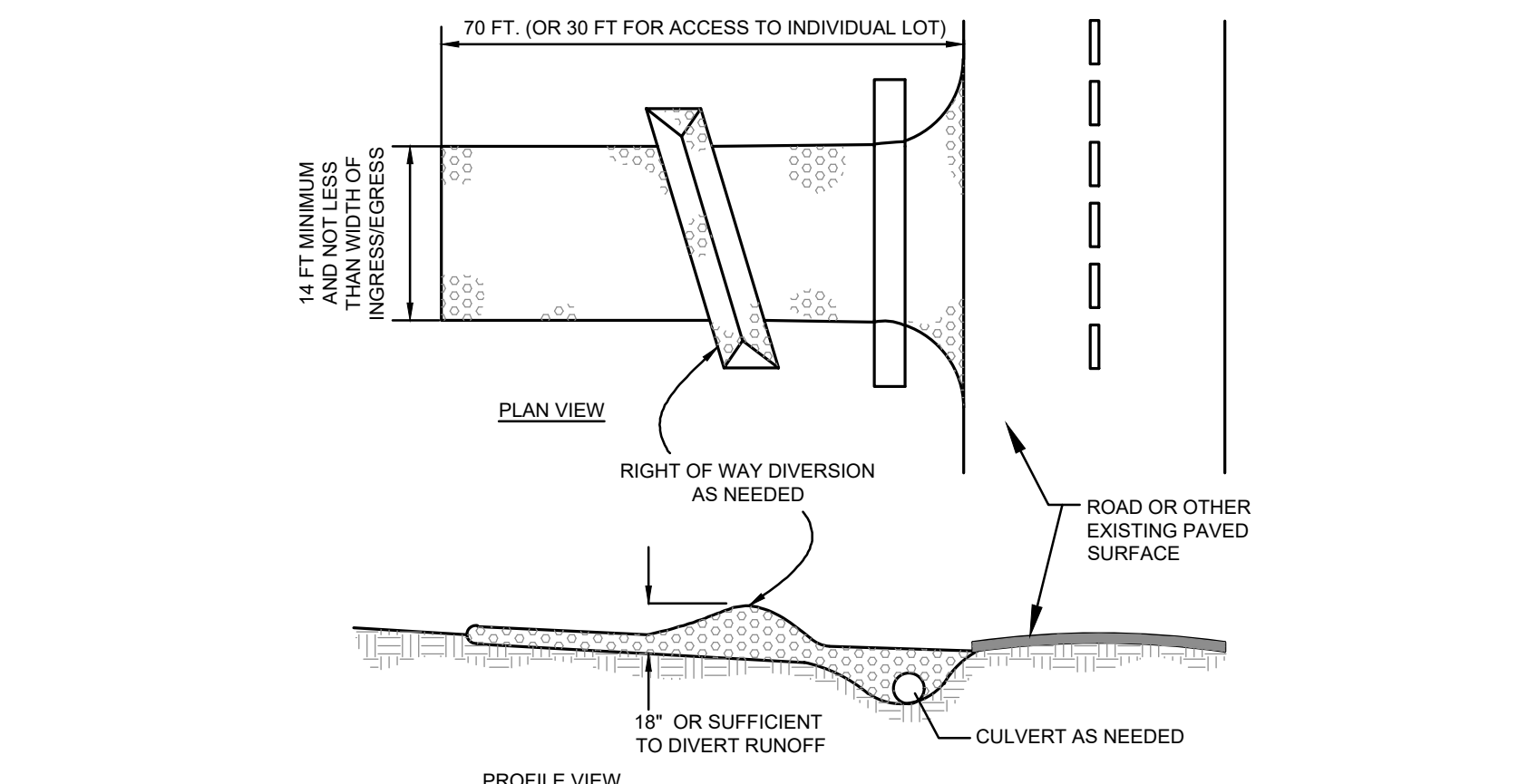


4 C451 TEMPORARY SEDIMENT BASIN DETAIL N.T.S.



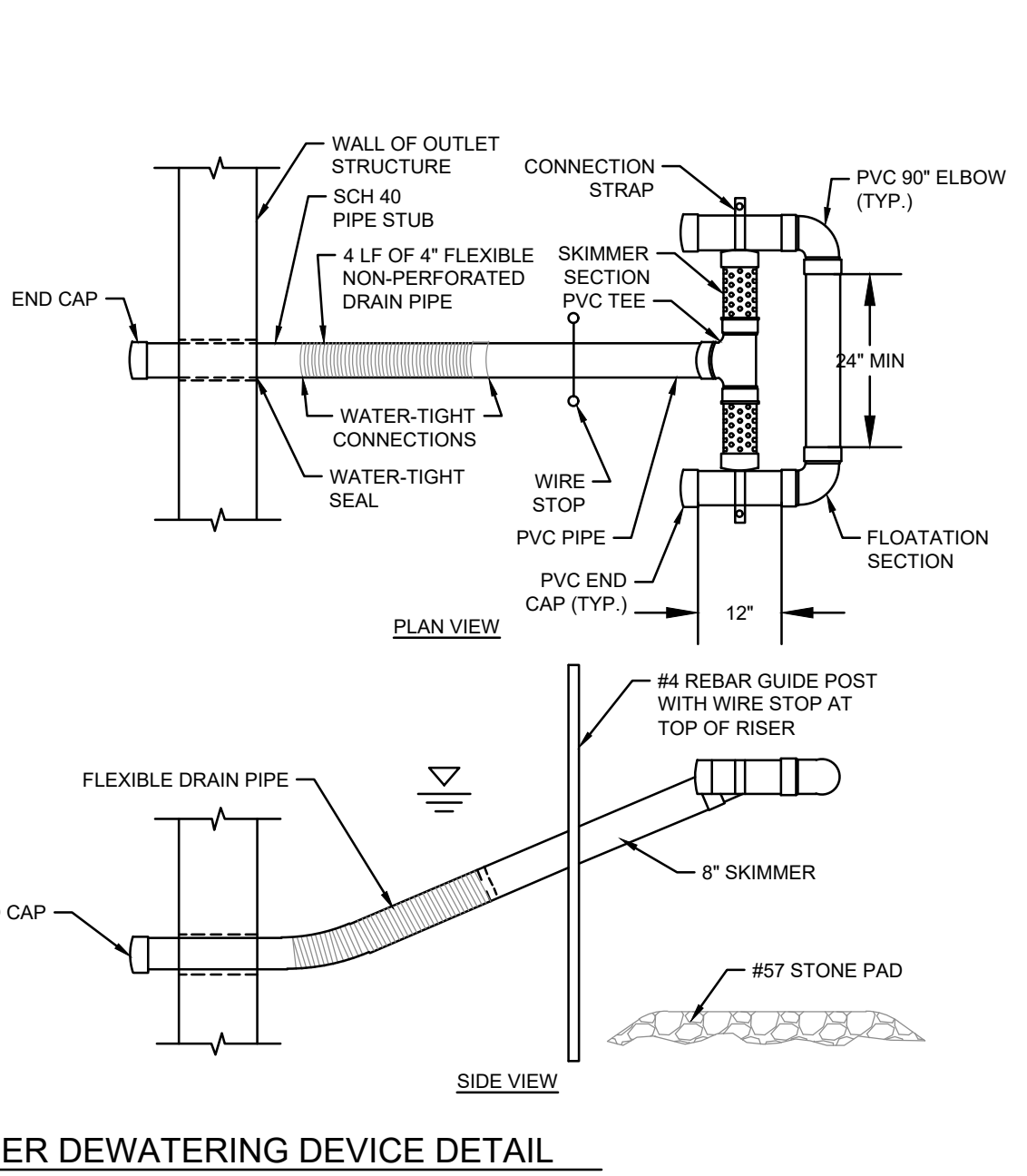
- NOTES:  
1. SUBGRADE FOR THE FILTER OR BEDDING AND RIPRAP SHALL BE PREPARED TO THE REQUIRED LINES AND GRADES AS SHOWN ON THE PLAN. THE SUBGRADE SHALL BE CLEARED OF ALL TREES, STUMPS, ROOTS, SOD, LOOSE ROCK, OR OTHER MATERIAL.  
2. RIPRAP SHALL CONFORM TO THE GRADING LIMITS AS SHOWN ON THE PLAN.  
3. GEOTEXTILE SHALL BE SECURELY ANCHORED ACCORDING TO MANUFACTURERS' RECOMMENDATIONS.  
4. GEOTEXTILE SHALL BE LAID WITH THE LONG DIMENSION PARALLEL TO THE DIRECTION OF FLOW AND SHALL BE LAID LOOSELY BUT WITHOUT WRINKLES AND CREASES. WHERE JOINTS ARE NECESSARY, STRIPS SHALL BE PLACED TO PROVIDE A 12-IN. MINIMUM OVERLAP, WITH THE UPSLOPE STRIP OVERLAPPING THE DOWNSTREAM STRIP.  
5. GRAVEL BEDDING SHALL BE ODOT NO. 67'S OR 57'S UNLESS SHOWN DIFFERENTLY ON THE DRAWINGS.  
6. RIPRAP MAY BE PLACED BY EQUIPMENT BUT SHALL BE PLACED IN A MANNER TO PREVENT SLIPPAGE OR DAMAGE TO THE GEOTEXTILE.  
7. RIPRAP SHALL BE PLACED BY A METHOD THAT DOES NOT CAUSE SEGREGATION OF SIZES. EXTENSIVE PUSHING WITH A DOZER CAUSES SEGREGATION AND SHALL BE AVOIDED BY DELIVERING RIPRAP NEAR ITS FINAL LOCATION WITHIN THE CHANNEL.  
8. CONSTRUCTION SHALL BE SEQUENCED SO THAT OUTLET PROTECTION IS PLACED AND FUNCTIONAL WHEN THE STORM DRAIN, CULVERT, OR OPEN CHANNEL ABOVE IT BECOMES OPERATIONAL.  
9. ALL DISTURBED AREAS WILL BE VEGETATED AS SOON AS PRACTICAL.

3 C451 ROCK OUTLET PROTECTION DETAIL N.T.S.

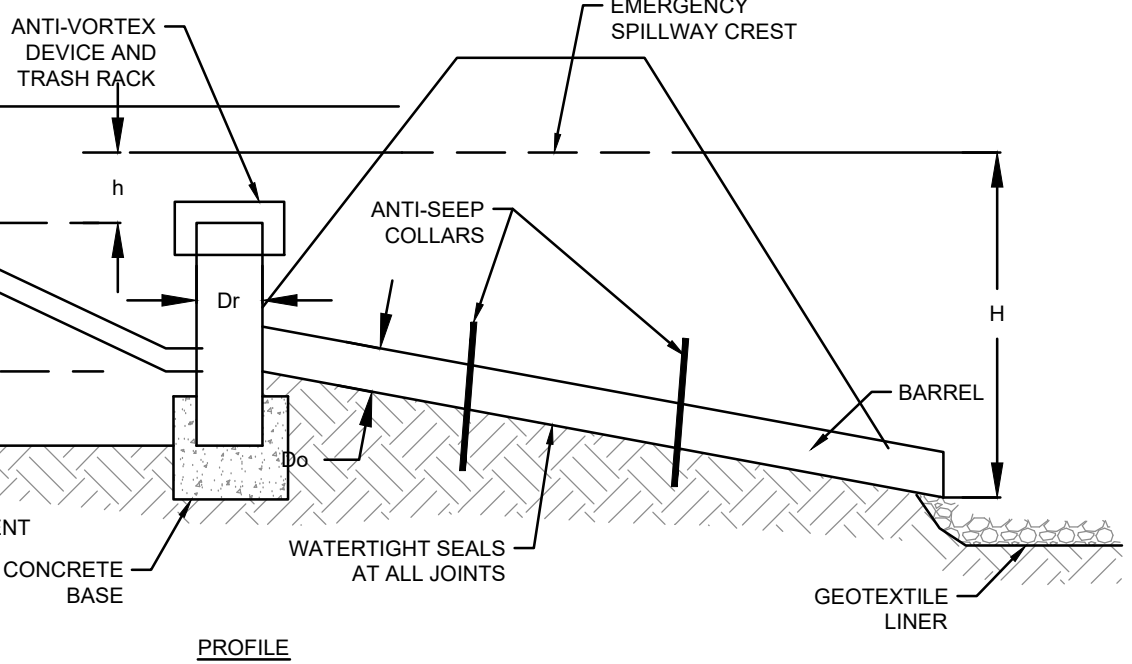


- NOTES:  
1. STONE SIZE - ODOT #2 (1.5-2.5 INCH) STONE SHALL BE USED, OR RECYCLED CONCRETE EQUIVALENT.  
2. LENGTH - THE CONSTRUCTION ENTRANCE SHALL BE AS LONG AS REQUIRED TO STABILIZE HIGH TRAFFIC AREAS BUT NOT LESS THAN 70 FT. (EXCEPTION: APPLY 30 FT. MINIMUM TO SINGLE RESIDENCE LOTS).  
3. THICKNESS - THE STONE LAYER SHALL BE AT LEAST 6 INCHES THICK FOR LIGHT DUTY ENTRANCES OR AT LEAST 10 INCHES FOR HEAVY DUTY USE.  
4. WIDTH - THE ENTRANCE SHALL BE AT LEAST 14 FEET WIDE, BUT NOT LESS THAN THE FULL WIDTH AT POINTS WHERE INGRESS OR EGRESS OCCURS.  
5. GEOTEXTILE - A GEOTEXTILE SHALL BE LAID OVER THE ENTIRE AREA PRIOR TO PLACING STONE. IT SHALL BE COMPOSED OF STRONG ROT-PROOF POLYMERIC FIBERS AND MEET THE FOLLOWING SPECIFICATIONS:  
MINIMUM TENSILE STRENGTH: 200 LBS  
MINIMUM PUNCTURE STRENGTH: 80 LBS  
MINIMUM ELONGATION: 20%  
EQUIVALENT OPENING SIZE: EDS-0.08MM  
PERMITTIVITY: 1X10<sup>5</sup> CM/SEC  
6. TIMING - THE CONSTRUCTION ENTRANCE SHALL BE INSTALLED AS SOON AS IS PRACTICABLE BEFORE MAJOR GRADING ACTIVITIES.  
7. CULVERT - A PIPE OR CULVERT SHALL BE CONSTRUCTED UNDER THE ENTRANCE IF NEEDED TO PREVENT SURFACE WATER FROM FLOWING ACROSS THE ENTRANCE OR TO PREVENT RUNOFF FROM BEING DIRECTED OUT ONTO PAVED SURFACES.  
8. WATER BAR - A WATER BAR SHALL BE CONSTRUCTED AS PART OF THE CONSTRUCTION ENTRANCE IF NEEDED TO PREVENT SURFACE RUNOFF FROM FLOWING THE LENGTH OF THE CONSTRUCTION ENTRANCE AND OUT ONTO PAVED SURFACES.  
9. MAINTENANCE - THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION THAT WILL PREVENT TRACKING OR FLOW OF MUD ONTO PUBLIC RIGHTS-OF-WAY. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL STONE OR THE WASHING AND REWORKING OF EXISTING STONE AS CONDITIONS DEMAND AND REPAIR AND/OR CLEANOUT OF ANY STRUCTURES USED TO TRAP SEDIMENT. ALL MATERIALS SPILLED, DROPPED, WASHED, OR TRACKED ONTO ROADWAYS OR INTO STORM DRAINS MUST BE REMOVED IMMEDIATELY. THE USE OF WATER TRUCKS TO REMOVE MATERIALS DROPPED, WASHED, OR TRACKED ONTO ROADWAYS WILL NOT BE PERMITTED UNDER ANY CIRCUMSTANCES. TOP DRESSING OF ADDITIONAL STONE SHALL BE APPLIED AS CONDITIONS DEMAND. MUD SPILLED, DROPPED, WASHED OR TRACKED ONTO PUBLIC ROADS, OR ANY SURFACE WHERE RUNOFF IS NOT CHECKED BY SEDIMENT CONTROLS, SHALL BE REMOVED IMMEDIATELY. REMOVAL SHALL BE ACCOMPLISHED BY SCRAPING OR SWEEPING.  
10. CONSTRUCTION ENTRANCES SHALL NOT BE RELIED UPON TO REMOVE MUD FROM VEHICLES AND PREVENT OFF-SITE TRACKING. VEHICLES THAT ENTER AND LEAVE THE CONSTRUCTION SITE SHALL BE RESTRICTED FROM MUDDY AREAS.  
11. REMOVAL - THE ENTRANCE SHALL REMAIN IN PLACE UNTIL THE DISTURBED AREA IS STABILIZED OR REPLACED WITH A PERMANENT ROADWAY OR ENTRANCE.

4 C451 CONSTRUCTION ENTRANCE DETAIL N.T.S.



1 C451 SKIMMER DEWATERING DEVICE DETAIL N.T.S.



- TEMPORARY SEDIMENT BASIN 001 DEWATERING VOLUME  
1800 CF PER ACRE OF TOTAL DISTURBED AREA  
1800 CF/AC \* 42,050 AC = 75,690 CF  
PRINCIPAL SPILLWAY ELEVATION = 594.00  
TOP OF BASIN ELEVATION = 601.00  
VOLUME PROVIDED = 3.60 AC-FEET
- TEMPORARY SEDIMENT BASIN 001 SEDIMENT VOLUME  
1000 CF PER ACRE OF TOTAL DISTURBED AREA  
1000 CF/AC \* 42,050 AC = 42,050 CF  
SEDIMENT STORAGE ELEVATION = 593.00  
BOTTOM OF BASIN ELEVATION = 590.00  
VOLUME PROVIDED = 8.891 AC-FEET

- NOTES:  
1. SEDIMENT BASINS SHALL BE CONSTRUCTED AND OPERATIONAL BEFORE UPLSLOPE LAND DISTURBANCE BEGINS.  
2. SITE PREPARATION - THE AREA UNDER THE EMBANKMENT SHALL BE CLEARED, GRUBBED, AND STRIPPED OF ANY VEGETATION AND ROOT MAT. THE POOL AREA SHALL BE CLEARED AS NEEDED TO FACILITATE SEDIMENT CLEANOUT. GULLIES AND SHARP BREAKS SHALL BE SLOPED TO NO STEEPER THAN 1:1. THE SURFACE OF THE FOUNDATION AREA WILL BE THOROUGHLY SCARIFIED BEFORE PLACEMENT OF THE EMBANKMENT MATERIAL.  
3. CUT-OFF TRENCH - THE CUTOFF TRENCH SHALL BE EXCAVATED ALONG THE CENTERLINE OF THE EMBANKMENT. THE MINIMUM DEPTH SHALL BE 3 FT. UNLESS SPECIFIED DEEPER ON THE PLANS OR AS A RESULT OF SITE CONDITIONS. THE MINIMUM BOTTOM WIDTH SHALL BE 4 FT., BUT WIDE ENOUGH TO PERMIT OPERATION OF COMPACTION EQUIPMENT. THE TRENCH SHALL BE KEPT FREE OF STANDING WATER DURING BACKFILL OPERATIONS.  
4. EMBANKMENT - THE FILL MATERIAL SHALL BE FREE OF ALL SOD, ROOTS, FROZEN SOIL, STONES OVER 6 IN. IN DIAMETER, AND OTHER OBJECTIONABLE MATERIAL. THE PLACING AND SPREADING OF THE FOUNDATION AND THE FILL SHALL BE BROUGHT UP IN APPROXIMATELY 6 IN. HORIZONTAL LAYERS OR OF SUCH THICKNESS THAT THE REQUIRED COMPACTION CAN BE OBTAINED WITH THE EQUIPMENT USED. CONSTRUCTION EQUIPMENT SHALL BE OPERATED OVER EACH LAYER IN A WAY THAT WILL RESULT IN THE REQUIRED COMPACTION. SPECIAL EQUIPMENT SHALL BE USED WHEN THE REQUIRED COMPACTION CANNOT BE OBTAINED WITHOUT IT. THE MOISTURE CONTENT OF FILL MATERIAL SHALL BE SUCH THAT THE REQUIRED DEGREE OF COMPACTION CAN BE OBTAINED WITH THE EQUIPMENT USED.  
5. PIPE SPILLWAY - THE PIPE CONDUIT BARREL SHALL BE PLACED ON A FIRM FOUNDATION TO THE LINES AND GRADES SHOWN ON THE PLANS. CONNECTIONS BETWEEN THE RISER AND BARREL, THE ANTISEEP COLLARS AND BARREL, AND ALL PIPE JOINTS SHALL BE WATER-TIGHT. SELECTED BACKFILL MATERIAL SHALL BE PLACED AROUND THE CONDUIT IN LAYERS AND EACH LAYER SHALL BE COMPACTED TO AT LEAST THE SAME DENSITY AS THE ADJACENT EMBANKMENT. ALL COMPACTION WITHIN 2 FT. OF THE PIPE SPILLWAY WILL BE ACCOMPLISHED WITH HAND-OPERATED TAMPING EQUIPMENT.  
6. RISER PIPE BASE - THE RISER PIPE SHALL BE SET A MINIMUM OF 6 IN. IN THE CONCRETE BASE.  
7. TRASH RACKS - THE TOP OF THE RISER SHALL BE FITTED WITH TRASH RACKS FIRMLY FASTENED TO THE RISER PIPE.  
8. EMERGENCY SPILLWAY - THE EMERGENCY SPILLWAY SHALL BE CUT IN UNDISTURBED GROUND. ACCURATE CONSTRUCTION OF THE SPILLWAY ELEVATION AND WIDTH IS CRITICAL AND SHALL BE WITHIN A TOLERANCE OF 0.2 FT.  
9. SEED AND MULCH - THE SEDIMENT BASIN SHALL BE STABILIZED IMMEDIATELY FOLLOWING ITS CONSTRUCTION. IN NO CASE SHALL THE EMBANKMENT OR EMERGENCY SPILLWAY REMAIN BARE FOR MORE THAN 7 DAYS.  
10. SEDIMENT CLEANOUT - SEDIMENT SHALL BE REMOVED AND THE SEDIMENT BASIN RESTORED TO ITS ORIGINAL DIMENSIONS WHEN THE BASIN IS FILLED ONE-HALF THE POINTS ORIGINAL DEPTH OR AS INDICATED ON THE PLANS. SEDIMENT REMOVED FROM THE BASIN SHALL BE PLACED SO THAT IT WILL NOT ERODE.  
11. FINAL REMOVAL - SEDIMENT BASINS SHALL BE REMOVED AFTER THE UPSTREAM DRAINAGE AREA IS STABILIZED OR AS INDICATED IN THE PLANS. DEWATERING AND REMOVAL SHALL NOT CAUSE SEDIMENT TO BE DISCHARGED. THE SEDIMENT BASIN SITE AND SEDIMENT REMOVED FROM THE BASIN SHALL BE STABILIZED.

1 C451 SEDIMENT BASIN DETAIL N.T.S.



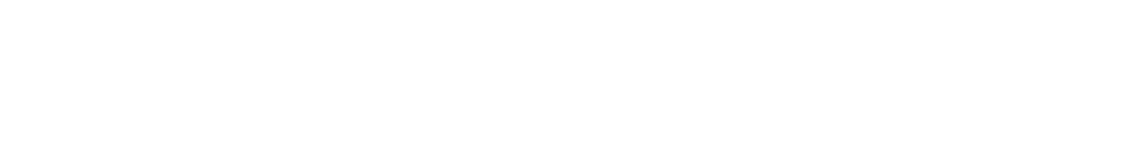
6 C451 TRASH RACK DETAIL N.T.S.



7 C451 PRESSURE RELIEF HOLES DETAIL N.T.S.

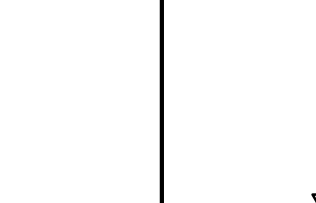


2 C451 ANTI-VORTEX DEVICE DETAIL N.T.S.

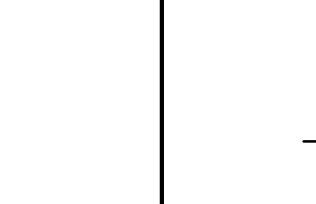


8 C451 EMERGENCY SPILLWAY DETAIL N.T.S.

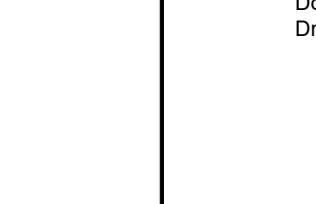
- NOTES:  
1. ALL JOINTS OF THE FLOATATION SECTION SHALL BE GLEUED TOGETHER AND WATER-TIGHT. JOINTS OF THE SKIMMER SECTION NEED NOT BE WATER-TIGHT.  
2. TO INSTALL DEWATERING PIPE STUB: FOR CORRUGATED METAL RISER, STUB SHALL BE SCHEDULE 40 STEEL PIPE. TACK WELDED TO CREATE A WATER-TIGHT SEAL. FOR CONCRETE RISER, STUB SHALL BE SCHEDULE 40 PVC PIPE GROUTED TO CREATE WATER-TIGHT SEAL.  
3. FLEXIBLE, NON-PERFORATED HDPE DRAIN PIPE SHALL BE ATTACHED TO OUTLET STRUCTURE DEWATERING STUB WITH WATER-TIGHT CONNECTIONS.  
4. ORIFICE IS TO BE SIZED FOR A MINIMUM 48-HOUR DEWATERING TIME.



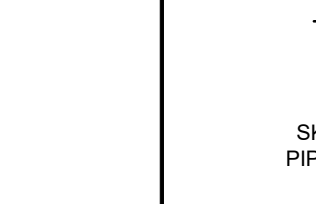
5 C451 ORIFICE DETAIL N.T.S.



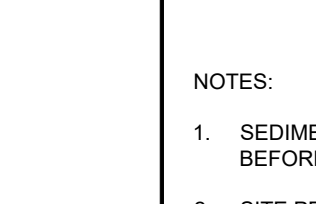
4 C451 ANTISEEP COLLARS DETAIL N.T.S.



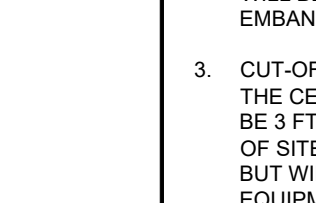
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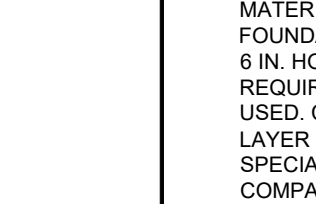
2 C451 TRASH RACK DETAIL N.T.S.



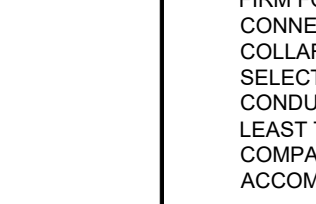
7 C451 PRESSURE RELIEF HOLES DETAIL N.T.S.



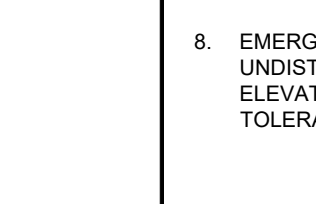
2 C451 ANTI-VORTEX DEVICE DETAIL N.T.S.



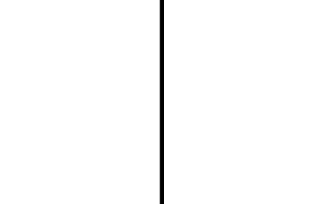
8 C451 EMERGENCY SPILLWAY DETAIL N.T.S.



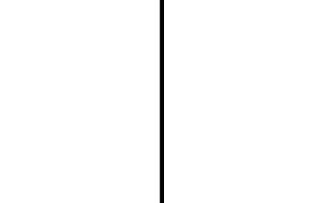
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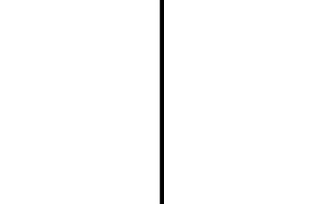
8 C451 CONSTRUCTION ENTRANCE DETAIL N.T.S.



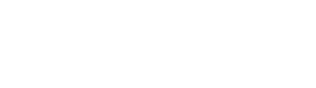
4 C451 TEMPORARY SEDIMENT BASIN DETAIL N.T.S.



1 C451 SKIMMER DEWATERING DEVICE DETAIL N.T.S.



5 C451 SILT FENCE DETAIL N.T.S.



6 C451 TRASH RACK DETAIL N.T.S.



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BRATE FARM  
BUILDINGS 5, 6, & 7  
Brate Road West Chester, OH 45069

Project No. 160651.004  
Date: 08.23.19  
Issued For: CONSTRUCTION SET  
Revisions:

No.	Date	Description

Not For Construction

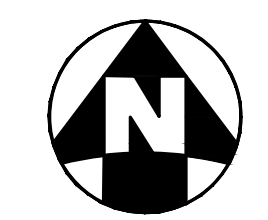


L100  
LANDSCAPE PLAN

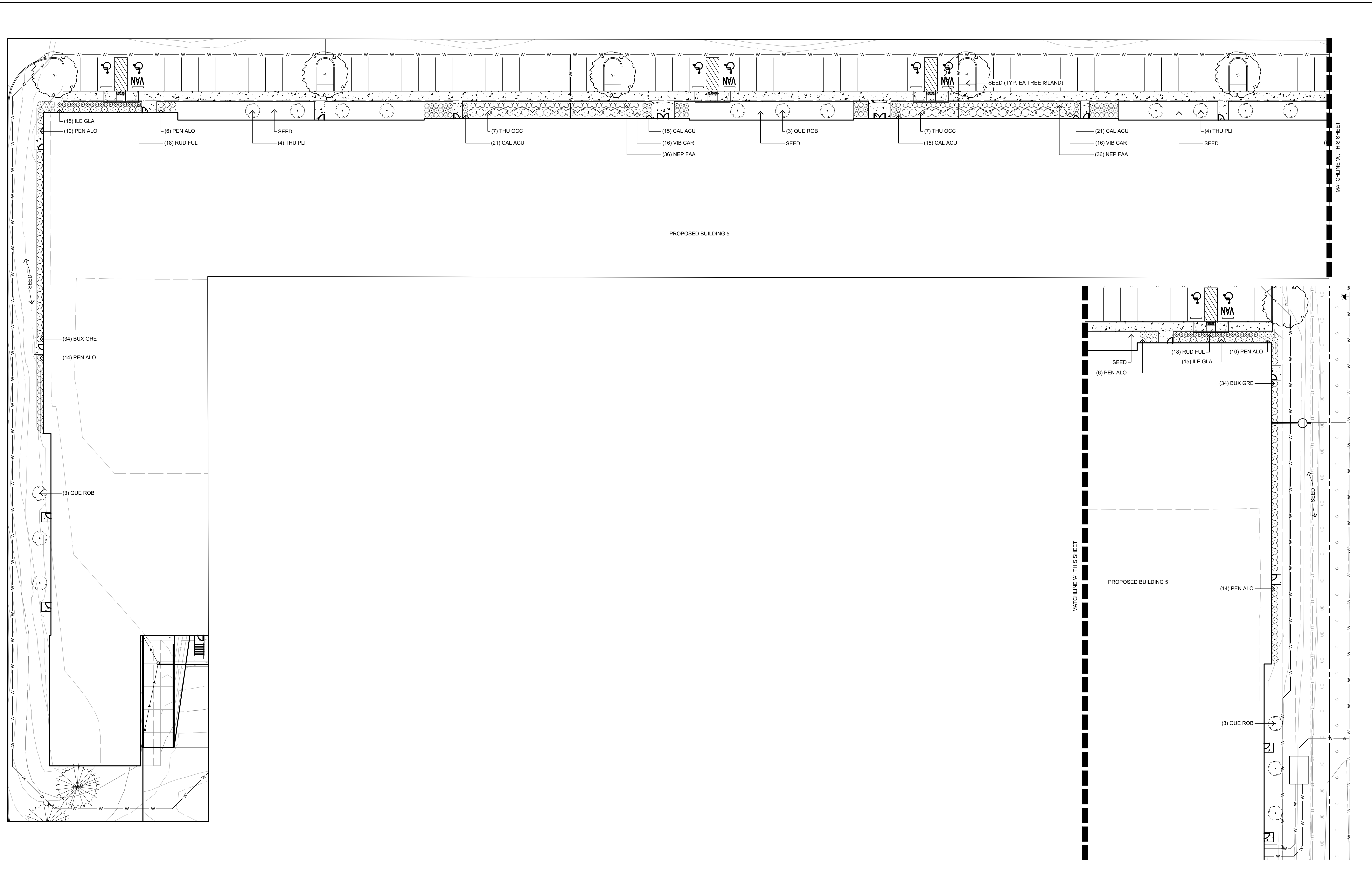


- PLANTING NOTES**
- FOR PLANT SCHEDULE AND PLANTING DETAILS REFER TO SHEET L104.
  - EACH CONTRACTOR IS RESPONSIBLE FOR LOCATING AND PROTECTING ALL EXISTING UTILITIES.
  - ALL SHRUB MASSES TO BE INCORPORATED BY A CONTINUOUS MULCH BED TO LIMITS SHOWN AND AS SPECIFIED. MULCH BEDS TO HAVE A NEAT, EDGED APPEARANCE.
  - SUBSURFACE IMPROVEMENTS SHALL BE OBSERVED. THE CONTRACTOR SHALL CONTACT THE OHIO UTILITIES PROTECTION SERVICE (OUPS) 48 HOURS PRIOR TO ANY EXCAVATION OR DIGGING TO ENSURE THE LOCATION OF UNDERGROUND UTILITIES. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO PROTECT SUCH UNDERGROUND UTILITIES.
  - ALL AREAS DISTURBED BY CONSTRUCTION SHALL BE FINE GRADED AND SEEDED.
  - ALL TREES WITHIN A SPECIES SHALL HAVE MATCHING FORM.
  - THE CONTRACTOR SHALL ENSURE THAT ALL NEWLY PLANTED TREES ARE PERFECTLY ALIGNED AND SET PLUMB WITH PROPER RELATIONSHIP TO THE SURROUNDING GRADE. CONFIRM FINISHED GRADE PRIOR TO PLANTING.
  - ALL PLANT MATERIAL SHALL BE OF THE SIZE AND TYPE SPECIFIED. IF SUBSTITUTIONS ARE APPROVED BY THE OWNER'S REPRESENTATIVE, THE SIZE AND GRADING STANDARDS SHALL CONFORM TO THOSE OF THE AMERICAN ASSOCIATION OF NURSERYMEN.

- LEGEND**
- DECIDUOUS TREE, TYP.
  - EVERGREEN TREE, TYP.
  - SHRUB, PERENNIALS, ORNAMENTAL GRASSES, TYP.



NOTE: UNDERGROUND UTILITIES ARE PLOTTED FROM A COMPILATION OF AVAILABLE RECORD INFORMATION AND SURFACE INDICATIONS OF UNDERGROUND STRUCTURES AND MAY NOT BE INCLUSIVE. PRECISE LOCATIONS AND THE EXISTENCE OR NON-EXISTENCE OF UNDERGROUND UTILITIES CANNOT BE VERIFIED. PLEASE NOTIFY THE OHIO UTILITY PROTECTION SERVICE AT 1-800-362-2764 BEFORE ANY PERIOD OF EXCAVATION OR CONSTRUCTION ACTIVITY.



1 BUILDING #5 FOUNDATION PLANTING PLAN  
SCALE: 1" = 20'-0"

PLANTING NOTES  
1. REFER TO SHEET L104 FOR PLANT SCHEDULE AND DETAILS.

- LEGEND
- DECIDUOUS TREE, TYP.
  - EVERGREEN TREE, TYP.
  - SHRUB, PERENNIALS, ORNAMENTAL GRASSES, TYP.



NOTE: UNDERGROUND UTILITIES ARE PLOTTED FROM A COMPILATION OF AVAILABLE RECORD INFORMATION AND SURFACE INDICATIONS OF UNDERGROUND STRUCTURES AND MAY NOT BE INCLUSIVE. PRECISE LOCATIONS AND THE EXISTENCE OR NON EXISTENCE OF UNDERGROUND UTILITIES CANNOT BE VERIFIED. PLEASE NOTIFY THE OHIO UTILITY PROTECTION SERVICE AT 1-800-368-2764 BEFORE ANY PERIOD OF EXCAVATION OR CONSTRUCTION ACTIVITY.

Project No. 160651.004  
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Revisions:

No.	Date	Description





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Ohio Certificate of Authorization No. 00207236



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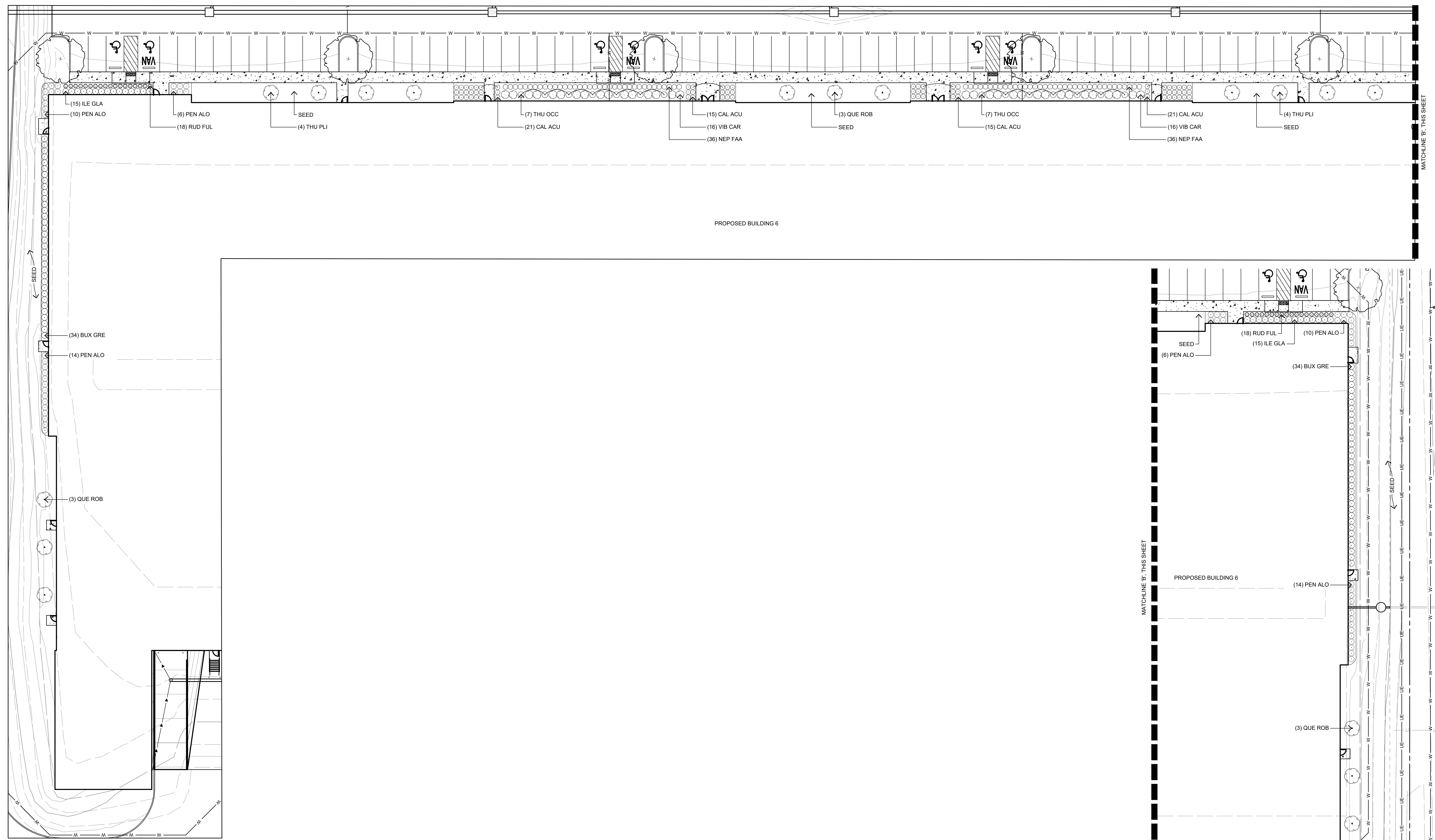


BRATE FARM  
BUILDINGS 5, 6, & 7  
Brate Road West Chester, OH 45069

Project No. 160651.004  
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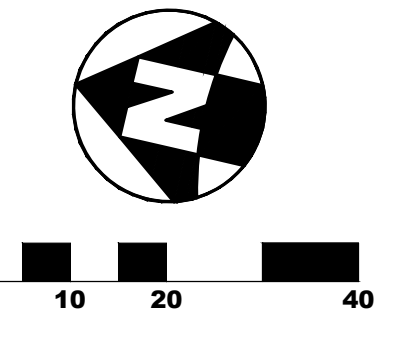


1 BUILDING #6 FOUNDATION PLANTING PLAN  
SCALE: 1" = 20'-0"

PLANTING NOTES  
1. REFER TO SHEET L104 FOR PLANT SCHEDULE AND DETAILS.

LEGEND

	DECIDUOUS TREE, TYP.		3 & 4 L104
	EVERGREEN TREE, TYP.		2 L104
	SHRUB, PERENNIALS, ORNAMENTAL GRASSES, TYP.		5 & 6 L104

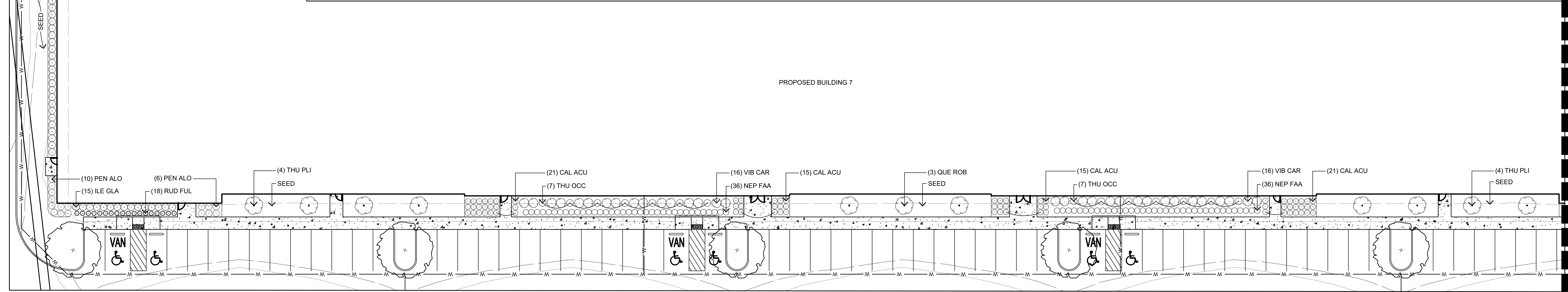
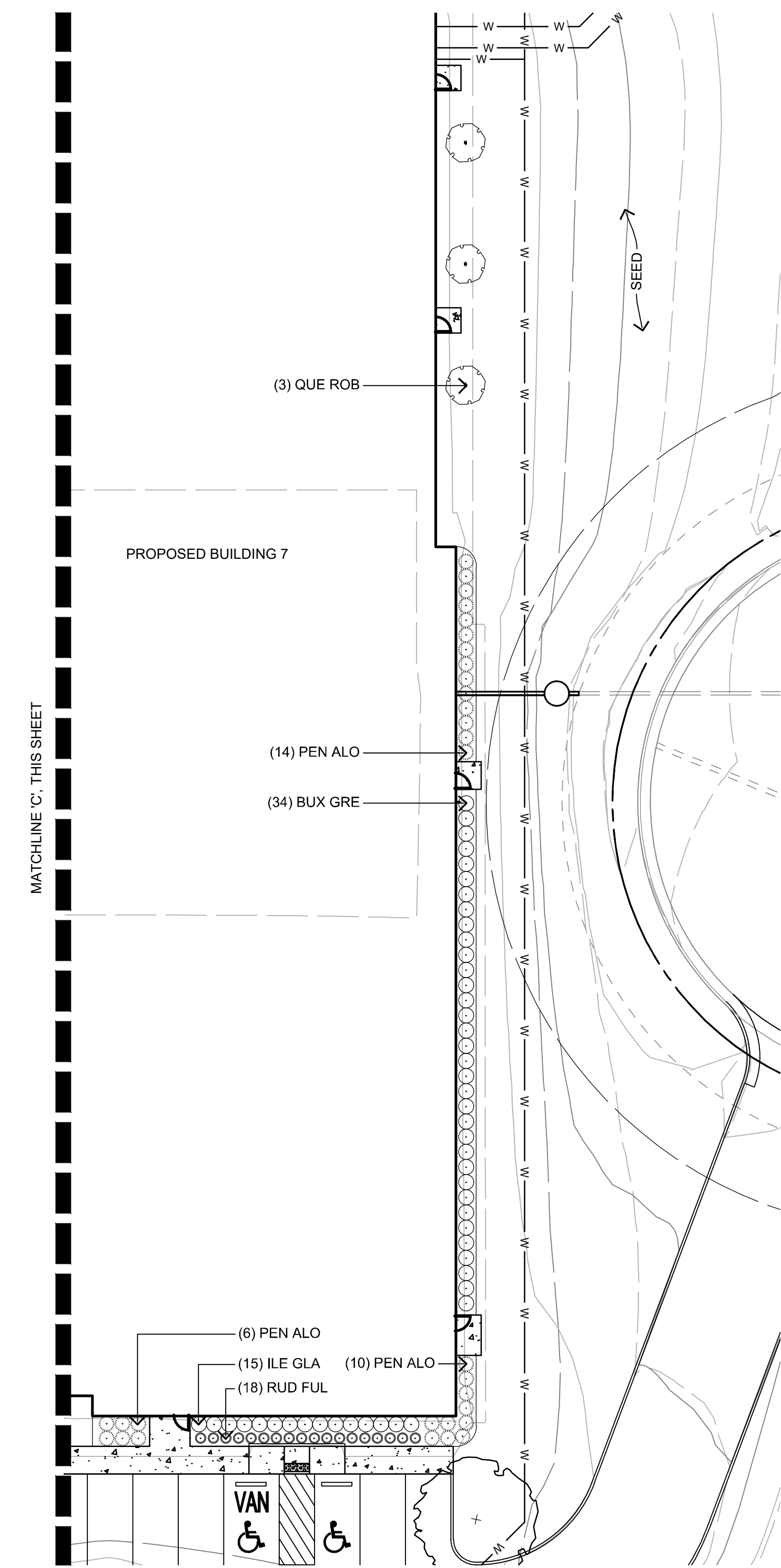
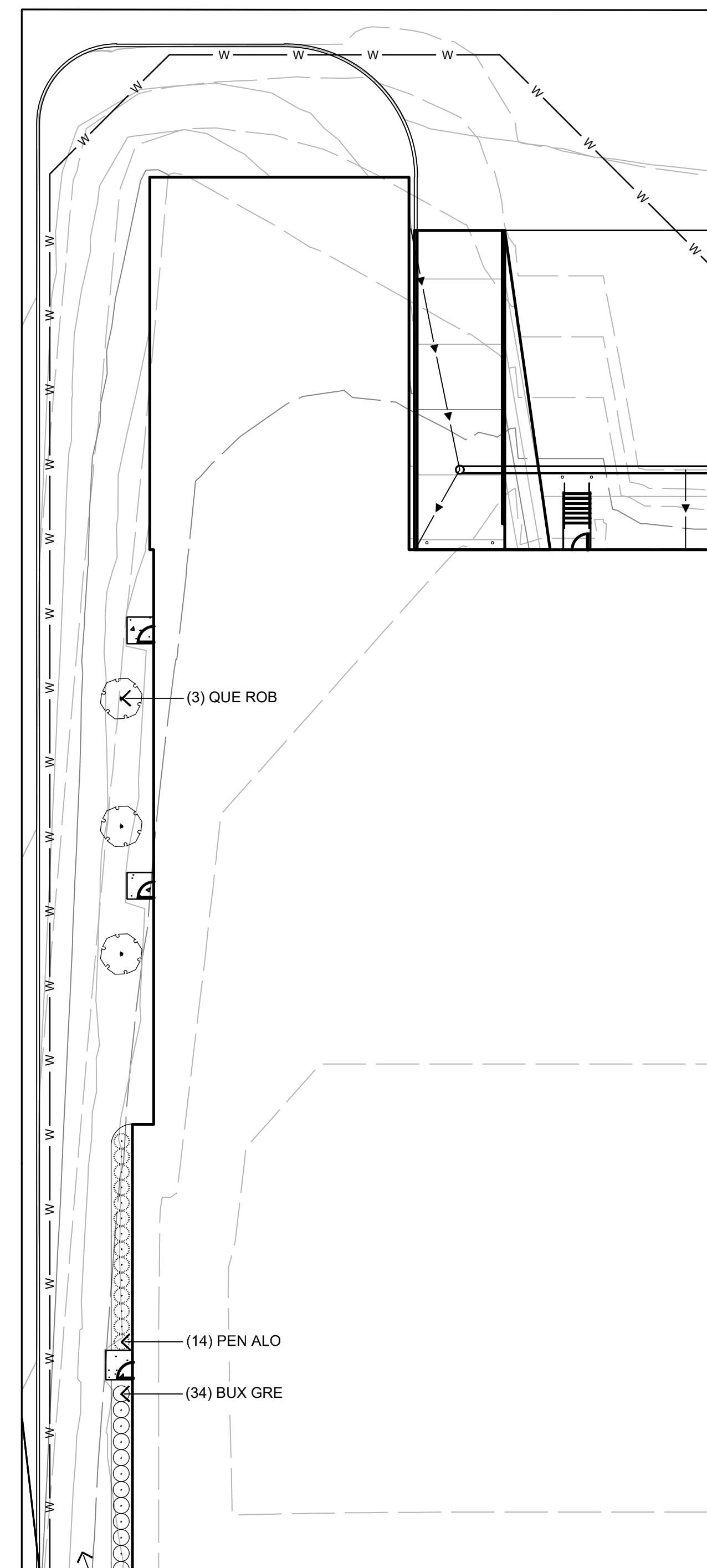


NOTE: UNDERGROUND UTILITIES ARE PLOTTED FROM A COMPILATION OF AVAILABLE RECORD INFORMATION AND SURFACE INDICATIONS OF UNDERGROUND STRUCTURES AND MAY NOT BE INCLUSIVE. PRECISE LOCATIONS AND THE EXISTENCE OR NON-EXISTENCE OF UNDERGROUND UTILITIES CANNOT BE VERIFIED. PLEASE NOTIFY THE OHIO UTILITY PROTECTION SERVICE AT 1-800-368-2764 BEFORE ANY PERIOD OF EXCAVATION OR CONSTRUCTION ACTIVITY.



L102  
LANDSCAPE PLAN  
ENLARGEMENT

Not For Construction



1 BUILDING #7 FOUNDATION PLANTING PLAN  
SCALE: 1" = 20'-0"

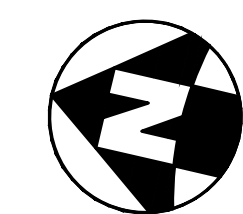
PLANTING NOTES

- REFER TO SHEET L104 FOR PLANT SCHEDULE AND DETAILS.

LEGEND

- DECIDUOUS TREE, TYP.
- EVERGREEN TREE, TYP.
- SHRUB, PERENNIALS, ORNAMENTAL GRASSES, TYP.

- 1 & 4  
L104
- 2  
L104
- 5 & 6  
L104



NOTE: UNDERGROUND UTILITIES ARE PLOTTED FROM A COMPILATION OF AVAILABLE RECORD INFORMATION AND SURFACE INDICATIONS OF UNDERGROUND STRUCTURES AND MAY NOT BE INCLUSIVE. PRECISE LOCATIONS AND THE EXISTENCE OR NON-EXISTENCE OF UNDERGROUND UTILITIES CANNOT BE VERIFIED. PLEASE NOTIFY THE OHIO UTILITY PROTECTION SERVICE AT 1-800-368-2764 BEFORE ANY PERIOD OF EXCAVATION OR CONSTRUCTION ACTIVITY.



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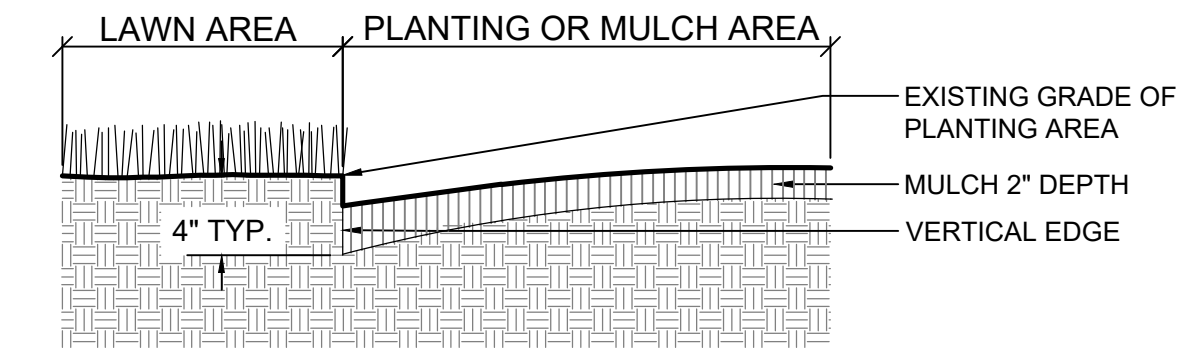
BRATE FARM  
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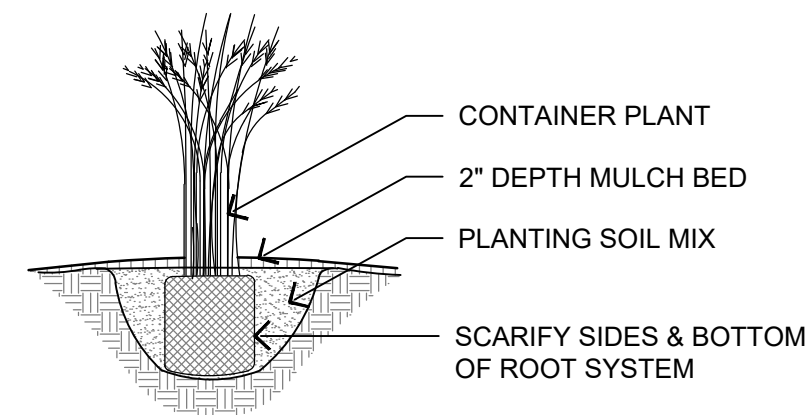
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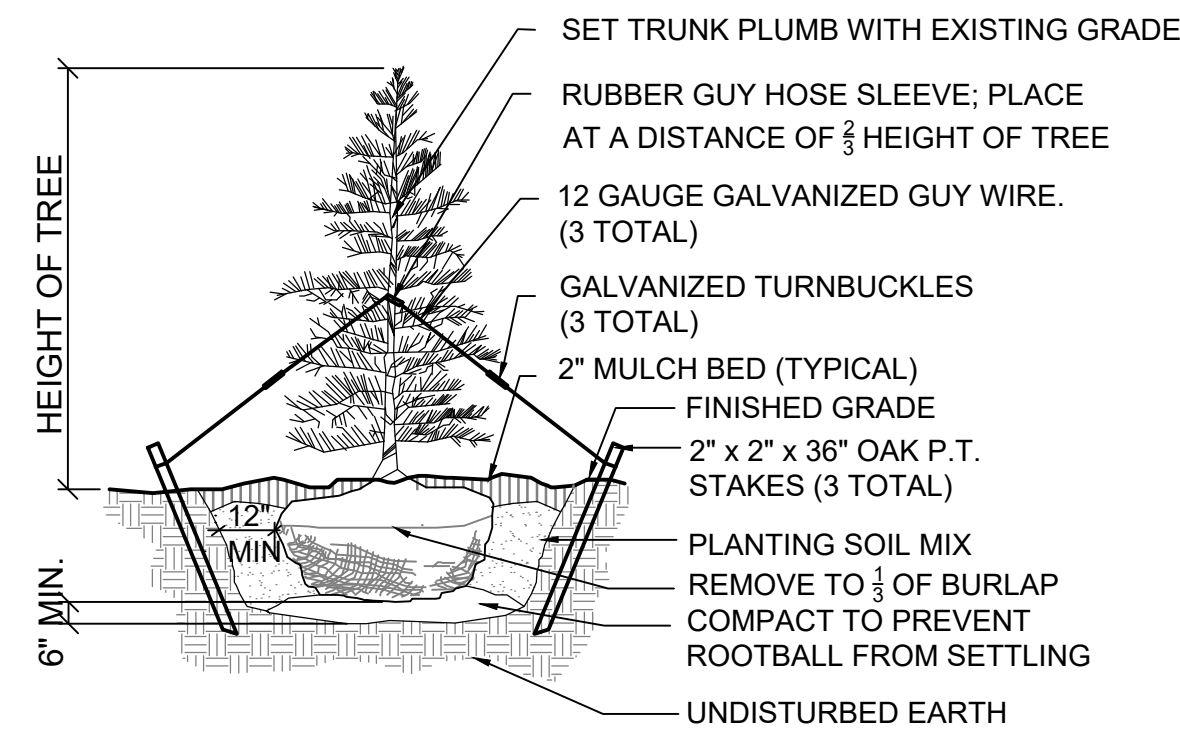
L103  
LANDSCAPE PLAN  
ENLARGEMENT



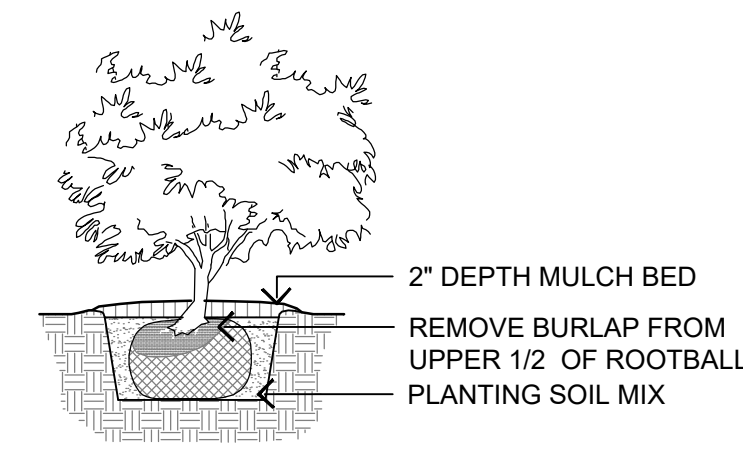
1 PLANTING BED EDGING DETAIL  
N.T.S.



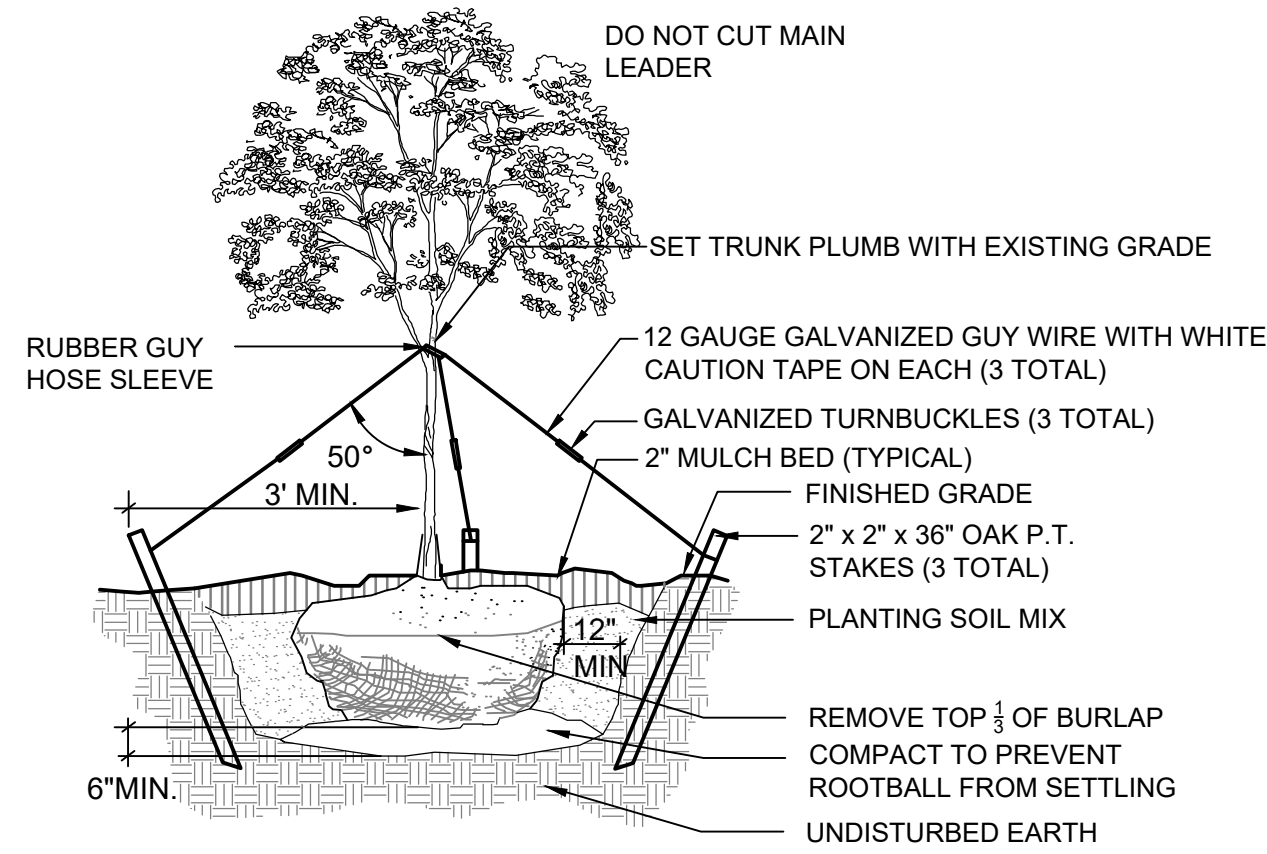
5 ORNAMENTAL GRASS / PERENNIAL PLANTING  
N.T.S.



2 EVERGREEN TREE PLANTING  
N.T.S.

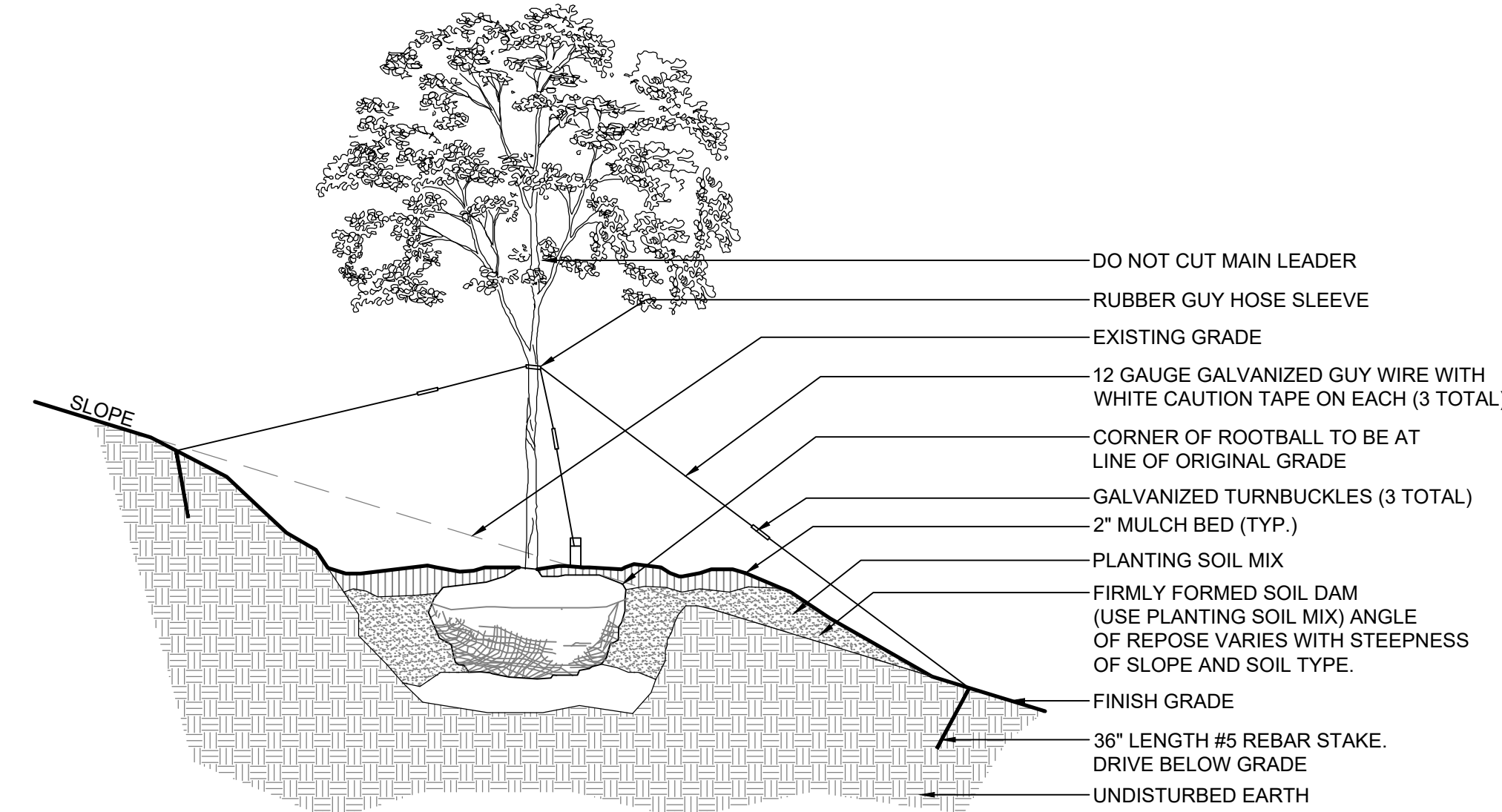


6 SHRUB PLANTING  
N.T.S.



- NOTES:
1. TOP OF ROOT BALL TO BE 2"-3" ABOVE ADJACENT FINISHED GRADE.
  2. REMOVE ALL LABELS, TAGS, OR OTHER FOREIGN MATERIALS FROM LIMBS.
  3. REMOVE GUY WIRES, TURNBUCKLES, HOSE AND STAKES 1 YEAR AFTER PLANTING.
  4. THE AMOUNT OF PRUNING SHALL BE LIMITED TO THE MINIMUM NECESSARY TO REMOVE DEAD OR INJURED TWIGS AND BRANCHES AND TO COMPENSATE FOR THE LOSS OF ROOTS DURING TRANSPLANTING. RETAIN NORMAL SHAPE OF TREE. OWNERS REPRESENTATIVE WILL DETERMINE AMOUNT OF PRUNING NECESSARY. PLANT TREES AT SAME GRADE AS GROWN IN THE NURSERY.

3 DECIDUOUS TREE PLANTING  
N.T.S.



- NOTES:
1. TOP OF ROOT BALL TO BE 2"-3" ABOVE ADJACENT FINISHED GRADE.
  2. REMOVE ALL LABELS, TAGS, OR OTHER FOREIGN MATERIALS FROM LIMBS. REMOVE GUY WIRES, TURNBUCKLES, HOSE AND STAKES 1 YEAR AFTER PLANTING.
  3. THE AMOUNT OF PRUNING SHALL BE LIMITED TO THE MINIMUM NECESSARY TO REMOVE DEAD OR INJURED TWIGS AND BRANCHES AND TO COMPENSATE FOR THE LOSS OF ROOTS DURING TRANSPLANTING. RETAIN NORMAL SHAPE OF TREE. OWNERS REPRESENTATIVE WILL DETERMINE AMOUNT OF PRUNING NECESSARY.
  4. PIT DIAMETER AND DEPTHS SHALL VARY WITH THE TYPE AND SIZE OF THE PLANT, THE SOIL TYPE, AND OTHER SITE CONDITIONS.
  5. FOR PLANTING INSTRUCTIONS SEE DECIDUOUS TREE PLANTING DETAIL, THIS SHEET.

4 DECIDUOUS TREE PLANTING ON A SLOPE  
N.T.S.

PLANT SCHEDULE

KEY	COMMON NAME	BOTANICAL NAME	SIZE	ROOT	REMARKS
<b>DECIDUOUS TREES:</b>					
ACE FRE	AUTUMN BLAZE RED MAPLE	ACER X FREEMANII 'JEFFERSRED'	2 CAL. MIN.	B&B	
CRA VIR	WINTER KING HAWTHORN	CRATAEGUS VIRIDIS 'WINTER KING'	2 CAL. MIN.	B&B	10' HT. MIN. - TREE FORM
AME LAE	CUMULUS SERVICEBERRY	AMELANCHIER LAEVIS 'CUMULUS'	2 CAL. MIN.	B&B	10' HT. MIN. - MULTI. STEMMED
GIN BIL	AUTUMN GOLD GINKGO	GINKGO BILOBA 'AUTUMN GOLD'	2 CAL. MIN.	B&B	MALE SPECIMENS ONLY
QUE BIC	SWAMP WHITE OAK	QUERCUS BICOLOR	2 CAL. MIN.	B&B	
ULM PAR	LACEBARK ELM	ULMUS PARVIFOLIA	2 CAL. MIN.	B&B	
<b>EVERGREEN TREES:</b>					
PIC ABI	NORWAY SPRUCE	PICEA ABIES	7'-8' HT.	B&B	
PIC GLA	BLACK HILLS SPRUCE	PICEA GLAUCA 'DENSATA'	7'-8' HT.	B&B	
PIC PUN	COLORADO BLUE SPRUCE	PICEA PUNGENS 'GLAUCA'	7'-8' HT.	B&B	
<b>SHRUBS, PERENNIALS, &amp; ORNAMENTAL GRASSES:</b>					
BUX GRE	GREEN VELVET BOXWOOD	BUXUS X 'GREEN VELVET'	24" HT. MIN.	B&B	SPACE PER PLAN
CAL ACU	KARL FOERSTER FEATHER REED GRASS	CALAMAGROSTIS ACUTIFLORA 'KARL FOERSTER'	#2	CONT.	SPACE 30" O.C.
ILE GLA	SHAMROCK HOLLY	ILEX GLABRA 'SHAMROCK'	24" HT.	CONT.	SPACE 3' O.C.
NEP FAA	WALKER'S LOW CATMINT	NEPETA FAASSENII 'WALKER'S LOW'	#2	CONT.	SPACE 30" O.C.
RUD FUL	LITTLE SUZY BLACK-EYED SUSAN	RUDBECKIA FULGIDA VAR SPECIOSA 'VIETTE'S LITTLE SUZY'	#1	CONT.	SPACE 24" O.C.
THU PLI	VIRESCENS WESTERN ARBORVITAE	THUJA PLICATA 'VIRESCENS'	8' HT. MIN.	B&B	SPACE PER PLAN
THU OCC	DEGROOT'S SPIRE ARBORVITAE	THUJA OCCIDENTALIS 'DEGROOT'S SPIRE'	5' HT. MIN.	B&B	SPACE PER PLAN
VIB CAR	KOREAN SPICE VIBURNUM	VIBURNUM CARLESII	24" HT.	CONT.	SPACE 4' O.C.
TURFGRASS SEED: SEE SPECIFICATIONS					



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BRATE FARM  
BUILDINGS 5, 6, & 7  
Brate Road West Chester, OH 45069

Project No. 160651.004  
Date: 08.23.19  
Issued For: CONSTRUCTION SET  
Revisions:

No.	Date	Description

Not For Construction



L104  
PLANT SCHEDULE & DETAILS



NOTE:  
UNDERGROUND UTILITIES ARE PLOTTED FROM A COMPILATION OF AVAILABLE RECORD INFORMATION AND SURFACE INDICATIONS OF UNDERGROUND STRUCTURES AND MAY NOT BE INCLUSIVE. PRECISE LOCATIONS AND THE EXISTENCE OR NON EXISTENCE OF UNDERGROUND UTILITIES CANNOT BE VERIFIED. PLEASE NOTIFY THE OHIO UTILITY PROTECTION SERVICE AT 1-800-368-2764 BEFORE ANY PERIOD OF EXCAVATION OR CONSTRUCTION ACTIVITY.



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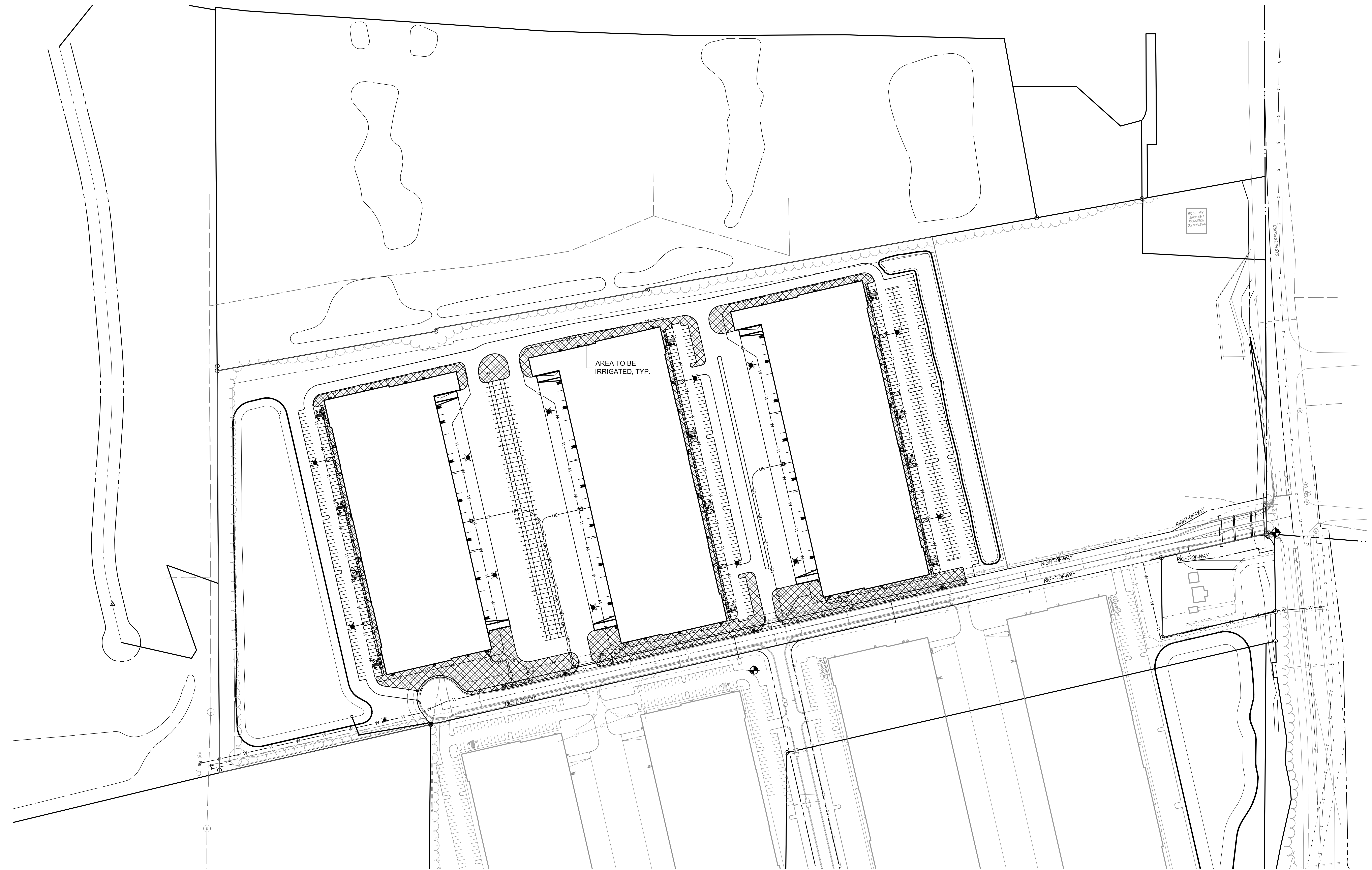
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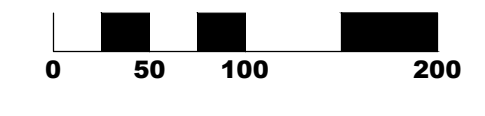
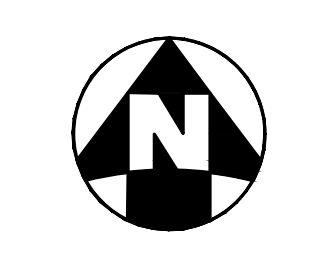
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IRRIGATION ZONE PLAN



IRRIGATION NOTES

1. THIS IRRIGATION ZONE PLAN IS DIAGRAMMATIC AND ONLY SHOWS AREAS TO BE IRRIGATED. CONTRACTOR TO DESIGN SYSTEM TO ENSURE FULL IRRIGATION COVERAGE ON AREAS SHOWN TO BE IRRIGATED.
2. IRRIGATION CONTRACTOR TO COORDINATE WITH MEP THE SIZE OF THE TAP AND THE LOCATION OF THE POINT OF CONNECTION PRIOR TO CONSTRUCTION. SEE MEP DRAWINGS.
3. THE IRRIGATION SYSTEM SHALL BE INSTALLED USING ACCEPTED AND QUALITY INSTALLATION STANDARDS AS USED IN THE INDUSTRY.
4. IT IS THE RESPONSIBILITY OF THE IRRIGATION CONTRACTOR TO BE FAMILIAR WITH ALL GRADE DIFFERENCES, LOCATIONS OF WALLS, STRUCTURES, AND UTILITIES AND MAKE THE NECESSARY ADJUSTMENTS TO ACCOMMODATE THE IRRIGATION SYSTEM. ANY OBSTRUCTIONS SHOULD BE BROUGHT TO THE ATTENTION OF THE OWNER'S REPRESENTATIVE. IN THE EVENT THAT THIS NOTIFICATION IS NOT PERFORMED, THE IRRIGATION CONTRACTOR SHALL ASSUME FULL RESPONSIBILITY FOR ANY NECESSARY COSTS.
5. MAINLINE PIPING SHALL BE BURIED A MINIMUM OF 12" OF COVER AND A MAXIMUM OF 18" OF COVER. LATERAL LINE PIPING A MINIMUM OF 12" COVER. ALL BACKFILL SURROUNDING THE PIPE SHALL BE SCREENED AND CLEANED OF MATERIAL LARGER THAN 1" IN SIZE.
6. IRRIGATION CONTRACTOR SHALL PROVIDE FIRST WINTERIZATION AND SPRING TURN ON IN BID.
7. FOR PLANTING PLANS AND DETAILS, REFER TO LANDSCAPE PLAN.
8. IRRIGATION CONTRACTOR TO COORDINATE ALL SLEEVES NECESSARY TO BE CONSTRUCTED PRIOR TO PARKING LOT AND SIDEWALK CONSTRUCTION.
9. THE GENERAL CONTRACTOR IS RESPONSIBLE TO PROVIDE POWER TO THE IRRIGATION. CONTROLLER, SET METER, ALL SLEEVES, TAP, BACKFLOW PREVENTION DEVICE AND TO GAIN ANY AND ALL PERMITTING.
10. WATER FROM IRRIGATION SHALL NOT ENCRONCH ON PAVEMENTS.
11. ALL AREAS PLANTED WITH SHRUBS, PERENNIALS, AND ORNAMENTAL GRASSES SHALL USE DRIP TUBING.

IRRIGATION LEGEND



NOTE: UNDERGROUND UTILITIES ARE PLOTTED FROM A COMPILATION OF AVAILABLE RECORD INFORMATION AND SURFACE INDICATIONS OF UNDERGROUND STRUCTURES AND MAY NOT BE INCLUSIVE. PRECISE LOCATIONS AND THE EXISTENCE OR NON-EXISTENCE OF UNDERGROUND UTILITIES CANNOT BE VERIFIED. PLEASE NOTIFY THE OHIO UTILITIES PROTECTION SERVICE AT 1-800-368-2764 BEFORE ANY PERIOD OF EXCAVATION OR CONSTRUCTION ACTIVITY.







UNDERGROUND IRRIGATION SYSTEM SPECIFICATIONS

THE SYSTEM SHALL PROVIDE 100% COVERAGE AND UNIFORMLY IRRIGATE ALL ZONES AND PERFORM AS REQUIRED:

- 1. THE CONTRACTOR SHALL PROVIDE AN UNDERGROUND IRRIGATION SYSTEM DRAWING AND ADHERE TO THESE SPECIFICATIONS.
a) AUTOMATIC IRRIGATION SYSTEM INCLUDING PIPING, FITTINGS, SPRINKLER HEADS, CONTROL WIRE, QUICK COUPLER VALVES, CONTROLLERS, AND ACCESSORIES.
b) EXCAVATING AND BACKFILLING IRRIGATION SYSTEM WORK.
c) TESTING AND ADJUSTING OF SYSTEM.
d) "AS - BUILT" DRAWINGS
e) WINTERIZATION - SHUTDOWN - SPRING START-UP

ALL WORK REQUIRED BY THE CONTRACTOR'S PLANS AND THESE SPECIFICATIONS SHALL BE ACCOMPLISHED BY THE IRRIGATION CONTRACTOR EVEN THOUGH MINOR ITEMS REQUIRED MAY NOT BE SPECIFICALLY MENTIONED IN THE ABOVE LISTING.

DRAWINGS: THE IRRIGATION LAYOUT IS DIAGRAMMATIC. EXACT LOCATIONS OF PIPING, SPRINKLER HEADS, VALVES, AND OTHER COMPONENTS SHALL BE BY THE CONTRACTOR. MODIFICATIONS IN THE FIELD AT TIME OF INSTALLATION TO ALLOW FOR ACTUAL ON SITE CONDITIONS ARE ACCEPTABLE. PROPER SPACINGS OF SPRINKLER HEADS WILL BE REQUIRED TO OBTAIN SATISFACTORY COVERAGE. MINOR ADJUSTMENTS IN THE SYSTEM LAYOUT WILL BE PERMITTED TO CLEAR FIXED OBSTRUCTIONS. ANY MAJOR REVISIONS TO THE IRRIGATION SYSTEM SHALL BE SUBMITTED IN WRITING TO THE OWNER FOR APPROVAL. THE FINAL SYSTEM LAYOUT MUST BE ACCEPTABLE TO THE OWNER.

VERIFICATION OF PLANS AND SPECIFICATIONS: IT SHALL BE THE RESPONSIBILITY OF THE IRRIGATION CONTRACTOR TO CAREFULLY EXAMINE THE IRRIGATION ZONES AND SPECIFICATIONS RELATING TO THIS WORK FOR COMPLETENESS, ACCURACY, AND CLARITY. ANY CONFLICT ERRORS OR CLARIFICATIONS REQUEST SHALL BE IMMEDIATELY BROUGHT TO THE ATTENTION OF THE OWNER'S REPRESENTATIVE FOR WRITTEN INTERPRETATION OR INSTRUCTIONS. NO CLAIM FOR INCREASED COMPENSATION FOR ADDITIONS, CHANGES, OR ALTERATIONS WILL BE CONSIDERED UNLESS WRITTEN AUTHORIZATION IS GRANTED BY OWNER'S REPRESENTATIVE. OTHERWISE ANY ADDITIONAL MATERIALS AND/OR LABOR DUE TO EXISTING CONDITIONS SHALL BE FURNISHED UNDER THIS CONTRACT.

IRRIGATION CONTRACTOR IS RESPONSIBLE FOR OBTAINING ALL PERMITS REQUIRED FOR INSTALLATION OF THIS WORK.

IRRIGATION CONTRACTOR TO ENSURE THAT THE GENERAL CONTRACTOR PROVIDES REQUIRED POWER TO IRRIGATION SYSTEM.

QUALITY ASSURANCE: MANUFACTURER QUALIFICATIONS: PROVIDE UNDERGROUND IRRIGATION SYSTEM AS A COMPLETE UNIT PRODUCED BY A SINGLE ACCEPTABLE MANUFACTURER, INCLUDING HEADS, VALVES, CONTROLS, AND ACCESSORIES.

WORK AND MATERIALS SHALL BE IN ACCORDANCE WITH THE LATEST RULES, AND OTHER APPLICABLE STATE OR LOCAL LAWS. NOTHING IN THE CONTRACT DOCUMENTS IS TO BE CONSTRUED TO PERMIT WORK NOT CONFORMING TO THESE CODES.

CONTRACTORS QUALIFICATIONS: BIDDING CONTRACTORS SHALL HAVE A MINIMUM OF THREE YEARS EXPERIENCE IN THE CONSTRUCTION OF A JOB OF SIMILAR SIZE AND COMPLEXITY.

- 1. PROVIDE THE GENERAL CONTRACTOR A LIST OF FIVE EQUIVALENT, IRRIGATION SYSTEM INSTALLATIONS, PERFORMED IN THE LAST FIVE YEARS, INCORPORATING THE FOLLOWING INFORMATION:
f) NAME AND ADDRESS OF PRODUCT.
g) NAME AND ADDRESS OF OWNER.
1) CONTACT PERSON
c) NAME AND ADDRESS WITH WHOM CONTACT WAS WITH.
1) CONTACT PERSON

REQUIREMENTS OF REGULATORY AGENCIES AND UTILITIES:
1. SYSTEM SHALL COMPLY WITH THE LATEST REQUIREMENTS OF ALL STATE AND LOCAL CODES AND ORDINANCES.
2. SYSTEM SHALL COMPLY WITH THE LATEST RULES AND REQUIREMENTS BY ALL UTILITY COMPANIES INVOLVED.
3. NOTHING IN THE CONTRACT DOCUMENTS IS TO BE CONSTRUED TO PERMIT WORK NOT CONFORMING TO THESE RULES, CODES AND ORDINANCES.

ELECTRICAL DEVICES SHALL CARRY UNDERWRITER'S LABORATORY LABELS.

SUBMITTALS: PRODUCT DATA: SUBMIT MANUFACTURER'S TECHNICAL DATA AND INSTALLATION INSTRUCTIONS FOR UNDERGROUND IRRIGATION SYSTEM.

RECORD DRAWINGS: AFTER COMPLETION OF THE WORK AND BEFORE FINAL ACCEPTANCE, A SET OF SCALED, REPRODUCIBLE RECORD DRAWINGS, AND TWO SETS OF PRINTS SHOWING THE LOCATION OF THE COMPLETE WORK SHALL BE SUBMITTED TO THE OWNER. FINAL PAYMENT AND ANY RETAINAGE WILL NOT BE RELEASED UNTIL THESE DRAWINGS ARE SUBMITTED AND ACCEPTED BY THE OWNER.

SUBMIT A WEEKLY IRRIGATION SCHEDULE BASED ON AN ANNUAL EVAPOTRANSPIRATION RATE, AVERAGE RAINFALL AMOUNTS ETC.

WARRANTY THE CONTRACTOR SHALL FURNISH A MANUFACTURER'S WRITTEN WARRANTY TO THE EFFECT THAT ALL HEADS, VALVES, AND CONTROLLERS WILL BE WARRANTED FOR A PERIOD OF NO LESS THAN ONE YEAR TO BE FREE FROM DEFECTS AND FAULTY WORKMANSHIP, AND THAT ANY DEFECTIVE HEADS, VALVES, OR CONTROLLERS SHALL BE PROMPTLY REPAIRED OR REPLACED WITHOUT ADDITIONAL COST TO THE OWNER IN ACCORDANCE WITH THAT WARRANTY.

ALL MATERIALS OTHER THAN THOSE REFERRED TO IN PARAGRAPH A ABOVE SHALL BE WARRANTED FOR A PERIOD OF ONE FULL YEAR FROM THE DATE OF FINAL ACCEPTANCE BY THE OWNER.

ALL INSTALLATION LABOR USED ON THIS PROJECT WILL BE WARRANTED FOR ONE FULL YEAR FROM DATE OF FINAL ACCEPTANCE BY THE OWNER.

ACCEPTABLE MANUFACTURERS MANUFACTURER: SUBJECT TO COMPLIANCE WITH REQUIREMENTS, PROVIDE PRODUCTS OF ONE OF THE FOLLOWING:

- 1. RAIN BIRD SPRINKLER MFG. CORP.
2. HUNTER
3. TORO

MATERIALS: PRESSURE PIPE: COMPLY WITH FOLLOWING:
1. UNPLASTICIZED PVC PIPE, CLASS 200 SDR21, ASTM D2241.
a) 3" AND LARGER, MAY BE INSTALLED WITH SLIP JOINT RING TITE SEALS.
b) 2-1/2" AND SMALLER SHALL BE INSTALLED USING SOLVENT WELD JOINTS.
2. DRIPPER TUBING WITH PRESSURE COMPENSATING EMITTERS

CIRCUIT PIPE (DOWNSTREAM FROM CIRCUIT VALVES): COMPLY WITH FOLLOWING:
1. UNPLASTICIZED PVC PIPE, CLASS 200 SDR-21, ASTM D2241.
2. VIRGIN POLYETHYLENE TUBING, 80 POUND MINIMUM N.S.F. APPROVED, ASTM D2239.

PIPE FITTINGS: COMPLY WITH FOLLOWING:
1. FOR PVC PLASTIC PIPE, APPROVED SOCKET FITTINGS TO BE USED WITH ASTM D2241 PIPE AND ASTM D2564 SOLVENT CEMENT.
2. FOR POLYETHYLENE (PE) PLASTIC PIPE, PLASTIC INSERT FITTINGS, ASTM D2609.

VALVES: MANUFACTURER'S STANDARD, OF TYPE AND SIZE INDICATED, AND AS FOLLOWS:
1. PROVIDE PVC OR CAST BRONZE BODIES, AS CALLED FOR ON PLANS.
2. PROVED PRESSURE REGULATING VALVES, IF CALLED FOR ON PLANS.
3. MANUAL CIRCUIT VALVES: GLOBE VALVES.
4. KEY OPERATED VALVES: MANUAL VALVES, FITTED FOR KEY OPERATION.
a) FURNISH 2 VALVE KEYS, 3 FEET LONG WITH TEE HANDLES AND KEY END TO FIT VALVES.
5. AUTOMATIC CIRCUIT VALVES GLOBE VALVES OPERATED BY LOW-POWER SOLENOID, NORMALLY CLOSED, MANUAL FLOW ADJUSTMENT.
6. AUTOMATIC DRAIN VALVES: DESIGNED TO OPEN FOR DRAINAGE WHEN LINE PRESSURE DROPS BELOW 3 PSI.

BACKFLOW PREVENTER: AS REQUIRED BY GOVERNING CODE.

SPRINKLER HEADS: MANUFACTURER'S STANDARD UNIT DESIGNED TO PROVIDE UNIFORM COVERAGE OVER ENTIRE AREA OF SPRAY SHOWN ON DRAWINGS AT AVAILABLE WATER PRESSURE, AS FOLLOWS:
1. BUBBLER: FIXED PATTERN, PRESSURE COMPENSATING TYPE.
2. SHRUBBERY: FIXED PATTERN, PRESSURE COMPENSATING TYPE
3. POP-UP SPRAY: FIXED PATTERN, WITH SCREW-TYPE FLOW ADJUSTMENT OR PRESSURE REGULATING NOZZLE AND STAINLESS STEEL RETRACTION SPRING.
4. POP-UP ROTARY SPRAY: GEAR DRIVE, FULL CIRCLE AND ADJUSTABLE PART CIRCLE TYPE.
5. POP-UP ROTARY IMPACT: IMPACT DRIVE, FULL CIRCLE AND PART CIRCLE AS INDICATED.
6. ABOVE-GROUND ROTARY IMPACT: IMPACT DRIVE, FULL CIRCLE AND PART CIRCLE AS INDICATED.

VALVE BOX: INDUSTRIAL GRADE PLASTIC.

VALVE COVER AND FRAME: INDUSTRIAL GRADE PLASTIC.

WIRING: UF TYPE SINGLE STRAND WIRE #14 WITH WHITE COMMON GROUND AND OTHERS COLOR CODED.
1. CONNECTIONS: SUITABLE MOISTURE PROOF DEVICE, 3M PACK OR RAIN BIRD SNAP-TYPE CONNECTOR.

DRAINAGE BACKFILL: CLEANED GRAVEL OR CRUSHED STONE, GRADED FROM 3" MAXIMUM TO 3/4" MINIMUM.

AUTOMATIC CONTROL SYSTEM: GENERAL: FURNISH LOW VOLTAGE SYSTEM MANUFACTURED EXPRESSLY FOR CONTROL OF AUTOMATIC CIRCUIT VALVES OF UNDERGROUND IRRIGATION SYSTEMS. PROVIDE UNIT OF CAPACITY TO SUIT NUMBER OF CIRCUITS AS INDICATED.

EXTERIOR CONTROL ENCLOSURE: MANUFACTURER'S STANDARD WEATHERPROOF ENCLOSURE WITH LOCKING COVER, COMPLYING WITH NFPA 70 (NATIONAL ELECTRIC CODE).

INTERIOR CONTROL ENCLOSURE: MANUFACTURER'S STANDARD WITH LOCKING COVER, COMPLYING WITH NFPA 70.

TRANSFORMER: TO CONVERT BUILDING SERVICE VOLTAGE TO CONTROL VOLTAGE OF 24 VOLTS.

CIRCUIT CONTROL: EACH CIRCUIT VARIABLE FROM APPROXIMATELY 5 TO 60 MINUTES. INCLUDE SWITCH FOR MANUAL OR AUTOMATIC OPERATION OF EACH CIRCUIT.

TIMING DEVICE: ADJUSTABLE, 24-HOUR AND 7 OR 14 DAY CLOCKS TO OPERATE ANY TIME OF DAY AND SKIP ANY DAY IN A 7 OR 14 DAY PERIOD.
1. ALLOW FOR MANUAL OR SEMI-AUTOMATIC OPERATION WITHOUT DISTURBING PRESET AUTOMATIC OPERATION.

SYSTEM DESIGN: DESIGN PRESSURES: AS INDICATED ON CONTRACTOR'S DRAWINGS, AT CONNECTION TO BUILDING SYSTEM AND AT LAST HEAD IN CIRCUIT.

LOCATION OF HEADS: AS INDICATED ON DRAWINGS. MAKE MINOR ADJUSTMENTS AS NECESSARY TO AVOID PLANTINGS AND OTHER OBSTRUCTIONS.

MINIMUM WATER COVERAGE:
1. TURF AREAS, 100%
2. PLANTING AREAS, 100%.
3. LAYOUT MAY BE MODIFIED, IF NECESSARY TO OBTAIN COVERAGE, TO SUIT MANUFACTURER'S STANDARD HEADS. DO NOT DECREASE NUMBER OF HEADS INDICATED ON CONTRACTOR'S DRAWINGS UNLESS OTHERWISE ACCEPTABLE TO ARCHITECT/ENGINEER/OWNER'S REPRESENTATIVE.

IRRIGATION ZONES: IRRIGATION HEADS LOCATED AT THE CORNERS OF THE FIELD SHALL BE ON THE SAME IRRIGATION ZONE, SEPARATE FROM THE REST OF THE SYSTEM.

TRENCHING AND BACKFILLING: GENERAL: EXCAVATE STRAIGHT AND TRUE WITH BOTTOM UNIFORMLY SLOPED TO LOW POINTS.
1. PROTECT EXISTING LAWNS AND PLANTINGS. REMOVE AND REPLANT AS NECESSARY TO COMPLETE INSTALLATION. REPLACE DAMAGED LAWN AREAS PLANTS AND MULCH WITH NEW TO MATCH EXISTING.

TRENCH DEPTH: EXCAVATE TRENCHES TO A DEPTH OF 3" BELOW INVERT OF PIPE, UNLESS OTHERWISE INDICATED.

MINIMUM COVER: PROVIDE FOLLOWING MINIMUM COVER OVER TOP OF INSTALLED PIPING: A MINIMUM OF 18" COVER SHALL BE HELD OVER ALL MAIN LINES AND LATERAL LINES 1" THRU 2" IN DIAMETER, AND A MINIMUM OF 24" OF COVER FOR PIPE SIZES 2-1/2" THRU 3" DIAMETER.

PIPE SIZES BETWEEN 4" AND 6" IN DIAMETER SHOULD HAVE A MINIMUM OF 30" OF COVER.

BACKFILL: BACKFILL WITH CLEAN MATERIAL FROM EXCAVATION. REMOVE ORGANIC MATERIAL AS WELL AS ROCKS AND DEBRIS LARGER THAN 1" DIAMETER. PLACE ACCEPTABLE BACKFILL MATERIAL IN 6" LIFTS, COMPACTING EACH LIFT.

EXISTING LAWNS: WHERE TRENCHING IS REQUIRED ACROSS EXISTING LAWNS, UNIFORMLY CUT STRIPS OF SOD 6" WIDER THAN TRENCH. REMOVE SOD IN ROLLS OF SUITABLE SIZE FOR HANDLING AND KEEP MOISTENED UNTIL REPLANTED.

BACKFILL TRENCH TO WITHIN 6" OF FINISHED GRADE. CONTINUE FILL WITH ACCEPTABLE TOPSOIL AND COMPACT TO BRING SOD EVEN WITH EXISTING LAWN.

REPLANT OR REPLACE SOD WITHIN 7 DAYS AFTER REMOVAL, ROLL AND WATER GENEROUSLY.

RESEED AND RESTORE TO ORIGINAL CONDITION ANY SOD AREAS NOT IN HEALTHY CONDITION EQUAL TO ADJOINING LAWNS 30 DAYS AFTER REPLANTING.

PAVEMENTS: WHERE EXISTING PAVEMENTS MUST BE CUT TO INSTALL IRRIGATION SYSTEM, CUT SMOOTHLY TO STRAIGHT LINES 6" WIDER THAN TRENCH.
1. EXCAVATE TRENCH TO REQUIRED DEPTH AND WIDTH.
2. REMOVE CUT-OUT PAVEMENT AND EXCAVATED MATERIAL FROM SITE.
3. AT WALKWAYS, JACK PIPING UNDER PAVING MATERIAL, IF POSSIBLE.
4. BACKFILL WITH DRY SAND FILL MATERIAL, PLACING IN 6-INCH LIFTS.
5. REPAIR OR REPLACE PAVEMENT CUTS WITH EQUIVALENT MATERIALS AND FINISHES.

PULLING PIPE AND WIRE: CONTRACTOR MAY ELECT TO INSTALL THE IRRIGATION PIPE AND ELECTRICAL WIRE BY MEANS OF VIBRATORY FLOW. STARTING AND FINISHING HOLES FOR HIS METHOD OF INSTALLATION SHALL NOT EXCEED A 1'-0" BY 3'-0" OPENING. THESE EXCAVATIONS AND OTHER NECESSARY EXCAVATIONS FOR INSTALLATION OF VALVES, SPRINKLER HEADS, CONNECTIONS, ETC., SHALL BE BACKFILLED IMMEDIATELY AFTER WORK IS COMPLETED WITH SAND OR PEA ROCK TO PRECLUDE FUTURE SETTLEMENT.

INSTALLATION: GENERAL: UNLESS OTHERWISE INDICATED, COMPLY WITH REQUIREMENTS OF UNIFORM PLUMBING CODE.

CONNECTION TO MAIN: CONNECT TO EXISTING BUILDING PIPING IN LOCATION INDICATED.
1. INSTALL NEW TEE, VALVE, AND UNION.
2. CONNECT TO EXISTING STUB. INSTALL NEW VALVE AND UNION.
3. CONNECT TO EXISTING STUB WITH UNION.

MAINTAIN UNINTERRUPTED WATER SERVICE TO BUILDING DURING NORMAL WORKING HOURS. ARRANGE FOR TEMPORARY WATER SHUT-OFF WITH ARCHITECT/ENGINEER.

BACKFLOW PREVENTER: PROVIDE UNION ON DOWNSTREAM SIDE. INSTALL APPROVED BACK FLOW PREVENTION DEVICE AS DIRECTED BY MANUFACTURER AND IN A MANNER APPROVED BY STATE AND LOCAL CODES.

WATER HAMMER ARRESTER: INSTALL BETWEEN CONNECTION TO BUILDING MAIN AND CIRCUIT VALVES, INSIDE BUILDING OR IN VALVE BOX AS INDICATED.

CIRCUIT VALVES: INSTALL IN VALVE BOX, ARRANGED FOR EASY ADJUSTMENT AND REMOVAL.
1. PROVIDE UNION ON DOWNSTREAM SIDE.
2. ADJUST AUTOMATIC CONTROL VALVES TO PROVIDE FLOW RATE OR RATED OPERATING PRESSURE REQUIRED FOR EACH SPRINKLER CIRCUIT. IF AN OVER PRESSURE CONDITION EXISTS, CONTRACTOR SHALL INSTALL, AT HIS EXPENSE, SUCH PRESSURE COMPENSTATION DEVICES AS ARE NECESSARY TO BRING THE CIRCUIT OR HEADS INTO PROPER OPERATING RANGE.

PIPING: LAY PIPE ON SOLID SUBBASE, UNIFORMLY SLOPED WITHOUT HUMPS OR DEPRESSIONS.
1. FOR CIRCUIT PIPING, SLOPE TO DRAIN VALVE AT LEAST 1/2" IN 10' OR RUN.
2. AT WALL PENETRATIONS, PACK THE OPENING AROUND PIPE WITH NON-SHRINK GROUT. AT EXTERIOR FACE, LEAVE A PERIMETER SLOT APPROXIMATELY 1/2" WIDE BY 1/2" DEEP. FILL THIS SLOT WITH BACKER ROD AND AN ACCEPTABLE ELASTOMERIC SEALANT. REPAIR BELOW GRADE WATERPROOFING DISTURBED BY THIS WOK AND MAKE PENETRATION WATERTIGHT.
3. INSTALL PVC PIPE IN DRY WEATHER WHEN TEMPERATURE IS ABOVE 40 F (4 C) IN STRICT ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS. ALLOW JOINTS TO CURE AT LEAST 24 HOURS AT TEMPERATURE ABOVE 40 F (4 C) BEFORE TESTING, UNLESS OTHERWISE RECOMMENDED BY MANUFACTURER.
a) ALLOW JOINTS TO CURE AT LEAST 24 HOURS AT TEMPERATURE ABOVE 40 DEGREES F (4 DEGREES C) BEFORE TESTING, UNLESS OTHERWISE RECOMMENDED BY MANUFACTURER.

DRAIN POCKETS: EXCAVATE TO SIZES INDICATED. BACKFILL WITH ACCEPTABLE DRAIN MATERIAL TO 12" BELOW GRADE. COVER DRAIN MATERIAL WITH A SHEET OF 30-POUND ASPHALT SATURATED FELT AND BACKFILL REMAINDER WITH EXCAVATED MATERIAL.
1. RESTORE LAWNS OR PLANTINGS DISTURBED BY THIS WORK.

SPRINKLER HEADS: FLUSH CIRCUIT LINES WITH FULL HEAD OF WATER AND INSTALL HEADS AFTER HYDROSTATIC TEST IS COMPLETED.
1. INSTALL LAWN HEADS AT MANUFACTURER'S RECOMMENDED HEIGHTS.
2. INSTALL SHRUBBERY HEADS AT HEIGHTS INDICATED.
3. LOCATE PART-CIRCLE HEADS TO MAINTAIN A MINIMUM DISTANCE OF 4" FROM WALLS AND 2" FROM OTHER BOUNDARIES, UNLESS OTHERWISE INDICATED.

WIRING: MAKE ALL WIRE SPLICES IN VALVE BOXES.

DIELECTRIC PROTECTION: USE DIELECTRIC FITTINGS AT CONNECTION WHERE PIPES OF DISSIMILAR METAL ARE JOINED.

CLOSING OF PIPE AND FLUSHING LINES: CAP OR PLUG ALL OPENINGS AS SOON AS LINES HAVE BEEN INSTALLED TO PREVENT THE ENTRANCE OF MATERIALS THAT WOULD OBSTRUCT THE PIPE. LEAVE IN PLACE UNTIL REMOVAL IS NECESSARY FOR COMPLETION OF THE INSTALLATION. THOROUGHLY FLUSH OUT ALL MAIN WATER LINES BEFORE INSTALLING VALVES. THOROUGHLY FLUSH OUT ALL LATERAL LINES AFTER INSTALLATION AND BEFORE ATTACHING HEADS.

TESTING AND TRAINING: GENERAL: NOTIFY ARCHITECT/ENGINEER IN WRITING WHEN TESTING WILL BE CONDUCTED. CONDUCT TESTS IN PRESENCE OF ARCHITECT/ENGINEER.

HYDROSTATIC TEST: TEST WATER PIPING AND VALVES, BEFORE BACKFILLING TRENCHES, TO A HYDROSTATIC PRESSURE OF NOT LESS THAN 100 PSI. PIPING MAY BE TESTED IN SECTIONS TO EXPEDITE WORK. REMOVE AND REPAIR PIPING, CONNECTIONS, VALVES WHICH DO NOT PASS HYDROSTATIC TESTING.

OPERATIONAL TESTING: PERFORM OPERATIONAL TESTING AFTER HYDROSTATIC TESTING IS COMPLETED, BACKFILL IS IN PLACE, AND SPRINKLER HEADS ADJUSTED TO FINAL POSITION.

- 1. DEMONSTRATE TO ARCHITECT/ENGINEER THAT SYSTEM MEETS COVERAGE REQUIREMENTS AND THAT AUTOMATIC CONTROLS FUNCTION PROPERLY.
2. COVERAGE REQUIREMENTS ARE BASED ON OPERATION OF ONE CIRCUIT AT A TIME.

AFTER COMPLETION OF GRADING, SEEDING OR SODDING, AND ROLLING OF GRASS AREAS, CAREFULLY ADJUST LAWN SPRINKLER HEADS SO THEY WILL BE FLUSH WITH OR NOT MORE THAN 1/2" ABOVE FINISH GRADE.

PERSONNEL TRAINING
1. CONTRACTOR SHALL BE RESPONSIBLE FOR THE TRAINING OF AS MANY PERSONNEL AS THE OWNER SHALL DEEM NECESSARY.
2. CONTRACTOR SHALL BE RESPONSIBLE FOR ONE STARTING AND ONE WINTERIZING OF THE SYSTEM DURING THE APPROPRIATE TIMES OF THE YEAR AFTER FINAL ACCEPTANCE BY THE OWNER AS PART OF THE TRAINING OF THE OWNER'S PERSONNEL.
3. CONTRACTOR SHALL INCLUDE GENERAL TROUBLESHOOTING AND OPERATION OF THE SYSTEM WITH REFERENCE TO HEAD, VALVE, AND CONTROLLER OPERATION.
4. CONTRACTOR SHALL FURNISH A COMPLETE OPERATION AND MAINTENANCE MANUAL TO THE OWNER'S PERSONNEL. THIS MANUAL SHALL INCLUDE REPAIR PARTS LISTS, ASSEMBLY INSTRUCTIONS, TROUBLESHOOTING GUIDES, PROGRAMMING INSTRUCTIONS, AND RECOMMENDED PRECIPITATION RATES.

ADJUSTMENT: AFTER COMPLETION OF GRADING, SEEDING OR SODDING, IF APPLICABLE, CONTRACTOR SHALL RETURN TO THE JOB SITE TO PERFORM ANY FINAL ADJUSTMENTS TO THE SYSTEM, WHICH MIGHT BE DEEMED NECESSARY.

THE CONTRACTOR WILL BE RESPONSIBLE FOR ANY PRESSURE TESTING AND START UP OF THE SYSTEM WHEN CONSTRUCTION IS COMPLETE. THE CONTRACTOR WILL ALSO BE RESPONSIBLE FOR THE WINTERIZATION OF THE SYSTEM AFTER THE FIRST SEASON OF OPERATION.



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BRATE FARM BUILDINGS 5, 6, & 7

Project No. 160651.004
Date: 08.23.19
Issued For: CONSTRUCTION SET

Table with 2 columns: No., Date, Description

Not For Construction



NOTE: UNDERGROUND UTILITIES ARE PLOTTED FROM A COMPIATION OF AVAILABLE RECORD INFORMATION AND SURFACE INDICATIONS OF UNDERGROUND STRUCTURES AND MAY NOT BE INCLUSIVE. PRECISE LOCATIONS AND THE EXISTENCE OR NON EXISTENCE OF UNDERGROUND UTILITIES CANNOT BE VERIFIED. PLEASE NOTIFY THE OHIO UTILITY PROTECTION SERVICE AT 1-800-362-2764 BEFORE ANY PERIOD OF EXCAVATION OR CONSTRUCTION ACTIVITY.

L302 SPECIFICATIONS