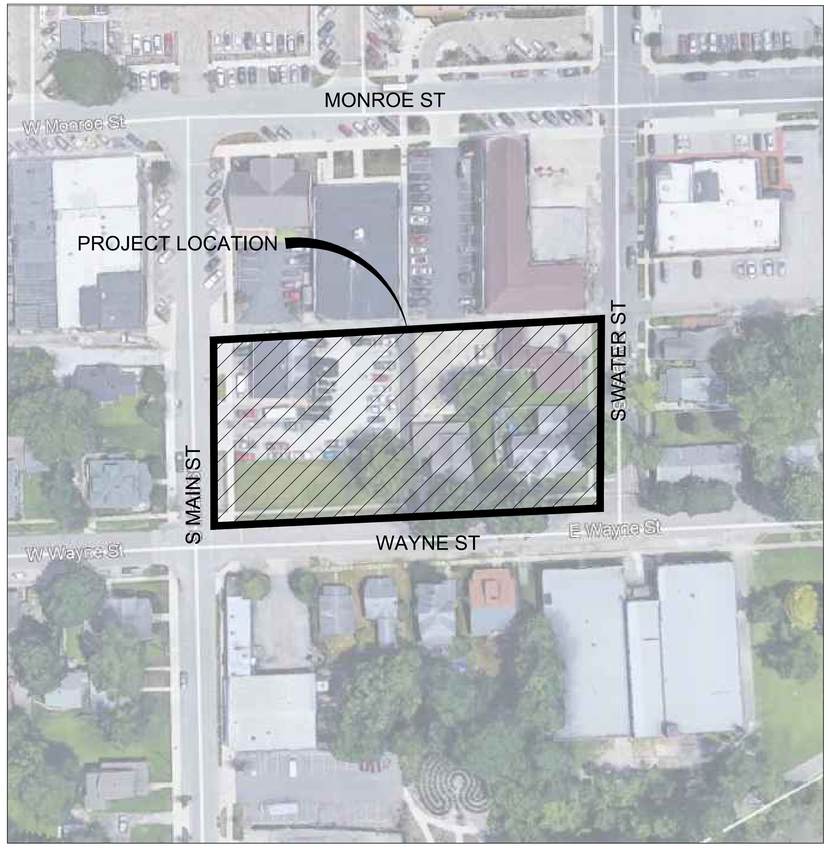
CONSTRUCTION PLANS

WAYNE STREET TOWNHOMES
E WAYNE STREET
FRANKLIN, INDIANA

VICINITY MAP
NO SCALE



LOCATION MAP
NO SCALE

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SHEET #	SUBJECT
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400	UTILITY PLAN
500	GRADING PLAN
600–601	STORM PLAN AND PROFILE
700	RETAINING WALL PLAN AND PROFILE
701	RAMP AND STEP DETAILS
800	EROSION CONTROL PLAN
801	EROSION CONTROL DETAILS
900	MISCELLANEOUS DETAILS
1000	SPECIFICATIONS
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PH1	LIGHTING PLAN BY OTHERS

OWNER/DEVELOPER
NEWKIRK SQUARE, LLC
101 E WAYNE STREET
FRANKLIN, IN 46131
PHONE: (317) 697-0636
CONTACT: BILLY BEMIS
EMAIL: billy@bemisgroup

ENGINEER

CROSSROAD ENGINEERS, PC
3417 SHERMAN DRIVE
BEECH GROVE, IN 46107
PHONE: (317) 780-1555
CONTACT: GREGORY J. ILKO
EMAIL: gilko@crossroadengineers.com

DIRECTORY PATH : R:\Active\Bemis Group\Wayne Street Townhomes\Design\CAD\Plans
FILENAME : 100 TITLE SHEET.dwg
DATE/USER : 4/7/2021 10:35 AM / kfogg

CROSSROAD ENGINEERS, PC
TRANSPORTATION & DEVELOPMENT CONSULTANTS
3417 SHERMAN DRIVE
BEECH GROVE, IN 46107
(317) 780-1555
CROSSROADENGINEERS.COM

SHEET 100

TITLE SHEET

WAYNE STREET TOWNHOMES

JOB No.	.	DRAWN	DEP/KLF	CHECKED	CJI	APPR.	CJI
DATE	APRIL 6, 2021	DESIGNED	CDM				

GREGORY J. ILKO
REGISTERED
NO. 10300059
STATE OF INDIANA
PROFESSIONAL ENGINEER

NO.	DATE	REVISIONS	BY	APPR.
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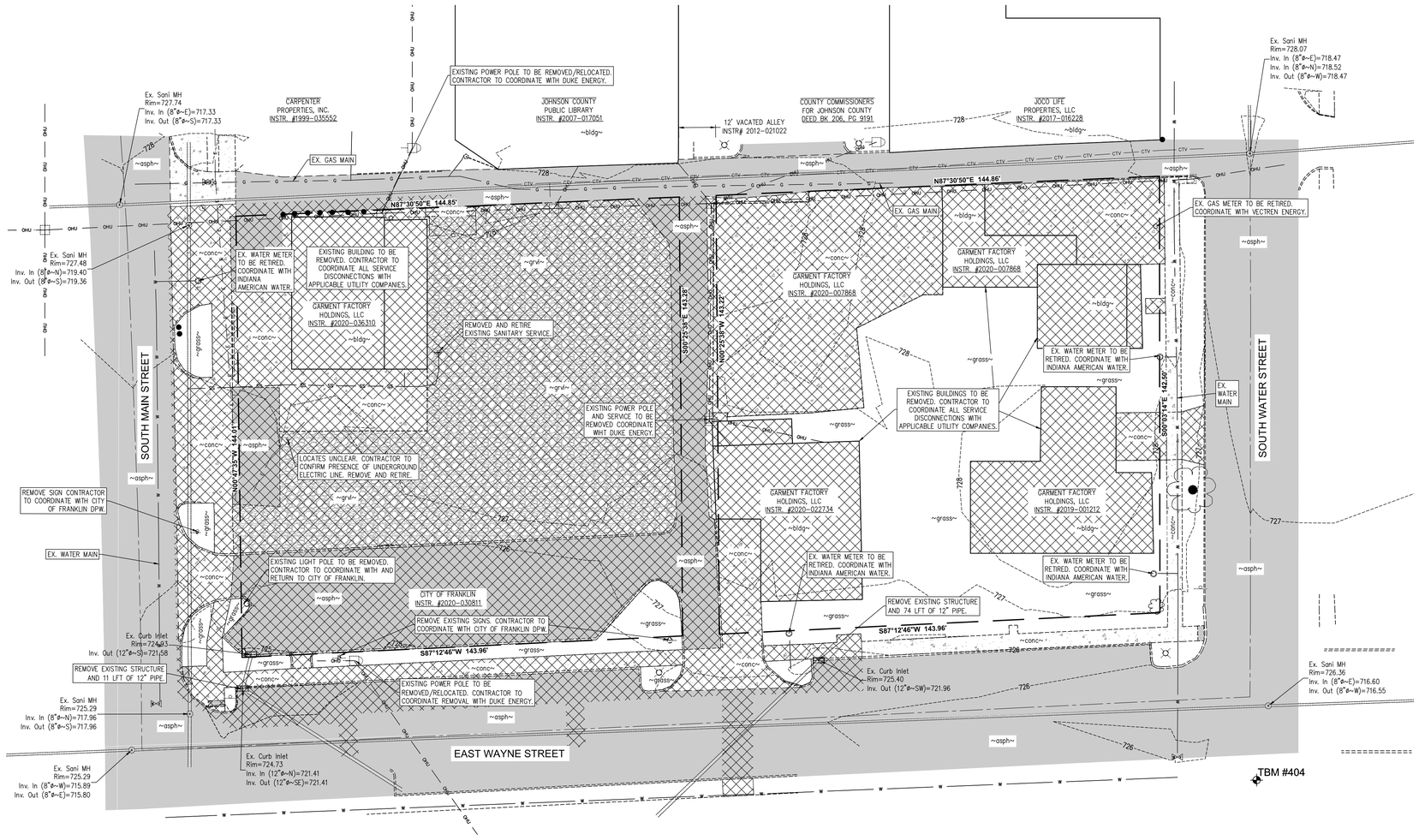

EXISTING LEGEND

POWERPOLE	800 CONTOURS
POWERPOLE W/RISER	PROPERTY LINE
LIGHT POLE	PAVEMENT LINE
ELECTRIC METER	PRIVACY FENCE
TELEPHONE MANHOLE	GAS LINE
WATER VALVE	WATER LINE
WATER METER	CABLE TV LINE
GAS VALVE	ELECTRIC LINE
GAS METER	OVERHEAD UTILITY LINE
CLEANOUT	SANITARY SEWER W/MANHOLE
SIGN	STORM SEWER W/ INLET
TREE & BUSH	
TEMP. BENCHMARK	
REMOVAL/DEMOLISH	ASPHALT, GRAVEL, CONCRETE

UTILITIES

Note: Listed below are the Indiana Underground Plant Protection Services Contacts; Others not listed may exist.

SEWER
CITY OF FRANKLIN
DEPARTMENT OF PUBLIC WORKS
796 S. STATE STREET
FRANKLIN, IN 46131
PHONE: (317) 736-3648
CONTACT: SALLY BROWN
EMAIL: sbrown@franklin.in.gov

GAS
VECTREN ENERGY
600 INDUSTRIAL DRIVE
FRANKLIN, IN 46131
PHONE: (765) 287-2150
CONTACT: MOSTAFA KHALLAD
EMAIL: mostafa.khallad@centerpointenergy.com

WATER
INDIANA AMERICAN WATER
153 N. EMERSON AVENUE
GREENWOOD, IN 46143
PHONE: (317) 893-3560
CONTACT: ADAM BOONE
EMAIL: adam.boone@amwater.com

FIRE DEPARTMENT
CITY OF FRANKLIN FIRE DEPARTMENT
1800 THORNBURG LANE
FRANKLIN, IN 46131
PHONE: (317) 736-3650
CONTACT: BRYNE PURSIFULL
EMAIL: bpursifull@franklin.in.gov

FIBER OPTIC
CENTURY LINK
50 N. JACKSON STREET
FRANKLIN, IN 46131
PHONE: (317) 736-4863
CONTACTS: JOHN UNVERFERTH or ROB SMITH
EMAILS: john.c.unverferth@centurylink.com
robert.d.smith@centurylink.com

METRONET
8036 COLE WOOD BLVD.
INDIANAPOLIS, IN 46239
PHONE: (317) 809-8067
CONTACT: DOUG RECKART
EMAIL: doug.reckart@metronetinc.com

ELECTRIC
DUKE ENERGY (SERVICE)
2515 N. MORTON STREET
FRANKLIN, IN 46131
PHONE: (317) 736-2017
CONTACT: JESSICA JACKSON
EMAIL: jessica.jackson@duke-energy.com

NOTE: The underground utilities shown have been located from field survey information and existing drawings. The surveyor makes no guarantees that the underground utilities comprise all such utilities in the area, either in-service or abandoned. The surveyor further does not warrant that the underground utilities shown are in the exact location indicated although the surveyor does certify that they are located as accurately as possible from information available. The surveyor has not physically located the underground utilities.

BENCHMARK INFORMATION

ORIGINATING BENCHMARK

DESIGNATION - X 13
PID - KA0010
STATE/COUNTY - IN/MORGAN
USGS QUAD - MOORESVILLE EAST (1980)

VERT ORDER - FIRST CLASS II

DESCRIBED BY COAST AND GEODETIC SURVEY 1946
1.2 MI N FROM WAVERLY.
IN JOHNSON COUNTY, 1.2 MILES NORTH ALONG STATE HIGHWAY 37 FROM THE INTERSECTION OF STATE HIGHWAY 144 AT WAVERLY, MORGAN COUNTY, 125 YARDS NORTH OF THE MORGAN-JOHNSON COUNTY LINE, 26 FEET WEST OF THE CENTERLINE OF THE HIGHWAY, IN LINE WITH THE WEST RIGHT-OF-WAY FENCE, 1.5 FEET SOUTH OF A WHITE WOODEN WITNESS POST, AND ABOUT 2 FEET HIGHER THAN THE HIGHWAY. A STANDARD DISK, STAMPED 686.370 X 13 1930 AND SET IN THE TOP OF A CONCRETE POST PROJECTING 7 INCHES ABOVE GROUND.

RECOVERY NOTE BY IN DEPT OF NAT RES 1985
NEW DESC- AT THE INTERSECTION OF NEW STATE ROAD 144 AND OLD STATE ROAD 37, IN THE SOUTHWEST QUARTER OF THE INTERSECTION, WITNESS POST IS GONE RIGHT-OF-WAY FENCE IS GONE, ALL OTHER INFORMATION APPEARS TO BE CORRECT.

ELEVATION = 685.94 (NAVD 88)

TBM #404
NORTHWEST CORNER OF BOTTOM OF CONCRETE STEP FOR "THE GARMENT FACTORY" MAIN ENTRANCE ON THE NORTH SIDE OF BUILDING. LOCATION ON SOUTH SIDE OF "E. WAYNE ST."

ELEV. = 727.04

TOPOGRAPHICAL NOTES

1. CONTRACTOR SHALL DISPOSE OF ALL MATERIALS IN ACCORDANCE WITH FEDERAL, STATE, AND LOCAL REGULATIONS.
2. UTILITIES ARE GRAPHICAL REPRESENTATION PER SURVEY AND MAPPING. CONTRACTOR SHALL FIELD VERIFY ALL UTILITIES PRIOR TO CONSTRUCTION.
3. CONTRACTOR SHALL COORDINATE WITH APPLICABLE UTILITY COMPANIES FOR SERVICE DISCONNECTIONS.
4. STRUCTURE DEMOLITION BY OTHERS IN ACCORDANCE WITH FEDERAL, STATE, AND LOCAL REGULATIONS.
5. ANY UNDERGROUND STORAGE TANKS ON SITE TO BE REMOVED BY OTHERS. USTs TO BE REMOVED IN ACCORDANCE TO FEDERAL, STATE, AND LOCAL REGULATIONS.

FLOODPLAIN INFORMATION

BY GRAPHIC PLOTTING ONLY, THIS TRACT OF LAND DESCRIBED HEREON LIES WITHIN ZONE "X" (AREAS OUTSIDE THE 500-YEAR FLOODPLAIN) AND IS NOT IN A SPECIAL FLOOD HAZARD AREA AS PLOTTED ON THE FEDERAL EMERGENCY MANAGEMENT AGENCY FLOOD INSURANCE RATE MAP FOR JOHNSON COUNTY, INDIANA, COMMUNITY PANEL NO. 18081C0231D, WHICH BEARS AN EFFECTIVE DATE OF 08/02/2007.

LEGAL DESCRIPTION

LOTS 73, 74, 75 AND 76 IN THE ORIGINAL PLAT OF FRANKLIN, THE PLAT WHICH IS RECORDED IN PLAT BOOK 1, PAGE 1, IN THE OFFICE OF THE RECORDER OF JOHNSON COUNTY, INDIANA.

EXISTING UTILITY SIZE AND MATERIAL INFORMATION SHOWN ON THESE PLANS ARE PER THE BEST GRAPHICAL AND VISIBLE INFORMATION AVAILABLE. CONFLICTS MAY EXIST AND IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO FIELD VERIFY ALL SIZING AND MATERIAL INFORMATION PROVIDED. IF ACTUAL CONDITIONS DIFFER FROM THAT INFORMATION SHOWN ON THE PLANS, THE CONTRACTOR SHALL, PRIOR TO THE INSTALLATION OF ANY PROPOSED INFRASTRUCTURE, NOTIFY THE DESIGN ENGINEER IMMEDIATELY.

INDIANA 811 Know what's below. Call before

DIRECTORY PATH : R:\Active\Bemis Group\Wayne Street Townhomes\Design\CAD\Plans
FILENAME : 200 TOPOGRAPHIC SURVEY & DEMOLITION PLAN.dwg
DATE/USER : 4/7/2021 11:30 AM / KDog

CROSSROAD ENGINEERS, PC
DEVELOPMENT CONSULTANTS
115 W. WASHINGTON ST. SUITE 1560 SOUTH
INDIANAPOLIS, IN 46204
(317) 636-4682
CROSSROADENGINEERS.COM

SHEET 200

TOPOGRAPHIC SURVEY & DEMOLITION PLAN

WAYNE STREET TOWNHOMES

JOB No.	DRAWN	CHECKED	APPR.
.	DEP/KLF	CJ	CJ
DATE	DESIGNED		
APRIL 8, 2021	CDM		

GREGORY J. ILKO NO. 10300059 STATE OF INDIANA REGISTERED PROFESSIONAL ENGINEER

NO.	DATE	REVISIONS	BY	APPR.
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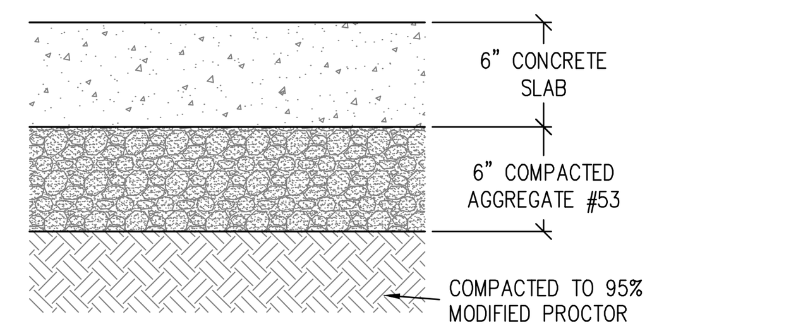
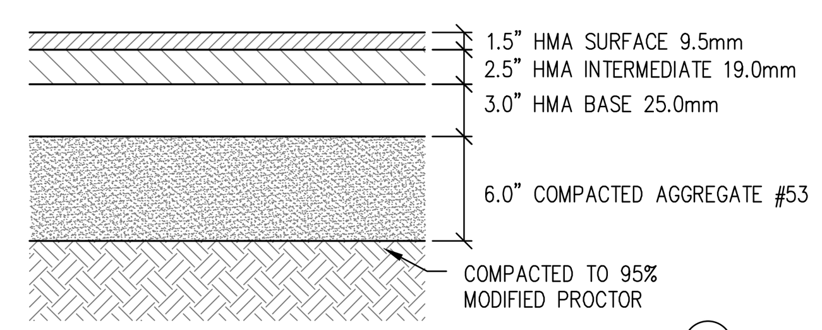
SHEET 200

SITE DIMENSION NOTES

1. STREET SIGNAGE SHALL CONFORM TO CITY OF FRANKLIN STANDARDS. CONTRACTOR SHALL COORDINATE WITH OWNER FOR ALL ON-SITE DIRECTIONAL SIGNAGE.
2. SIGNAGE SHALL INCLUDE ALL NECESSARY HARDWARE AND FITTINGS, INCLUDING 10 FT. OF 11 GAUGE FLANGED CHANNEL SIGN POST.
3. WATER MAIN INSTALLATION SHALL BE IN ACCORDANCE WITH THE INDIANA AMERICAN WATER COMPANY'S STANDARDS AND SPECIFICATIONS. CONTRACTOR SHALL COORDINATE WITH INDIANA AMERICAN WATER COMPANY FOR PERMITTING, CONNECTION AND TESTING PROCEDURES AND REQUIREMENTS.
4. CONTRACTOR SHALL NOTIFY ENGINEER, IF PROOF ROLL OF SUBGRADE FAILS, TO DETERMINE IF LIME STABILIZATION OF SUBGRADE IS NECESSARY.
5. ALL RADII DIMENSIONS ARE TO THE FACE OF PROPOSED CURB.
6. CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING TRAFFIC AND PROVIDING ALL NECESSARY FLAGMAN, BARRELS, SIGNAGE, ETC. DURING CONSTRUCTION. ALL APPLICABLE M.U.T.C.D. STANDARDS SHALL GOVERN THIS WORK.
7. CONTRACTOR SHALL COORDINATE WITH APPLICABLE UTILITY COMPANY'S AND BUILDING PLANS FOR WATER, CABLE, ELECTRIC, GAS, AND TELEPHONE CONNECTION SERVICE POINTS.
8. EXISTING UTILITY SIZE AND MATERIAL INFORMATION SHOWN ON THESE PLANS ARE PER THE BEST GRAPHICAL AND VISIBLE INFORMATION AVAILABLE. CONFLICTS MAY EXIST AND IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO FIELD VERIFY ALL SIZING AND MATERIAL INFORMATION PROVIDED. IF ACTUAL CONDITIONS DIFFER FROM THAT INFORMATION SHOWN ON THE PLANS, THE CONTRACTOR SHALL, PRIOR TO THE INSTALLATION OF ANY PROPOSED INFRASTRUCTURE, NOTIFY THE DESIGN ENGINEER IMMEDIATELY.



TYPICAL CONCRETE PAVEMENT SECTION (G)
NOT TO SCALE



TYPICAL ASPHALT PAVEMENT SECTION (K)
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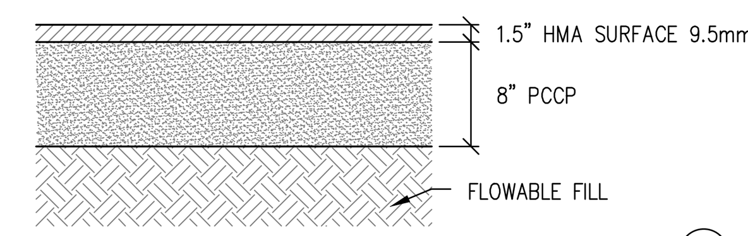
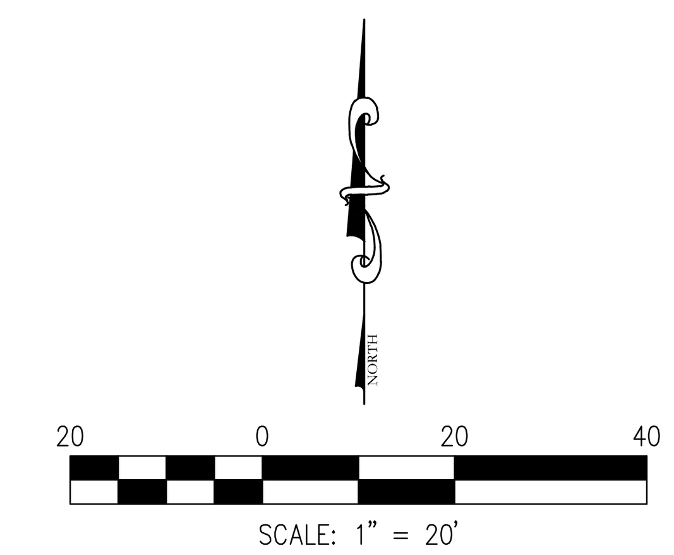


FULL DEPTH PATCHING SECTION (P)
NOT TO SCALE

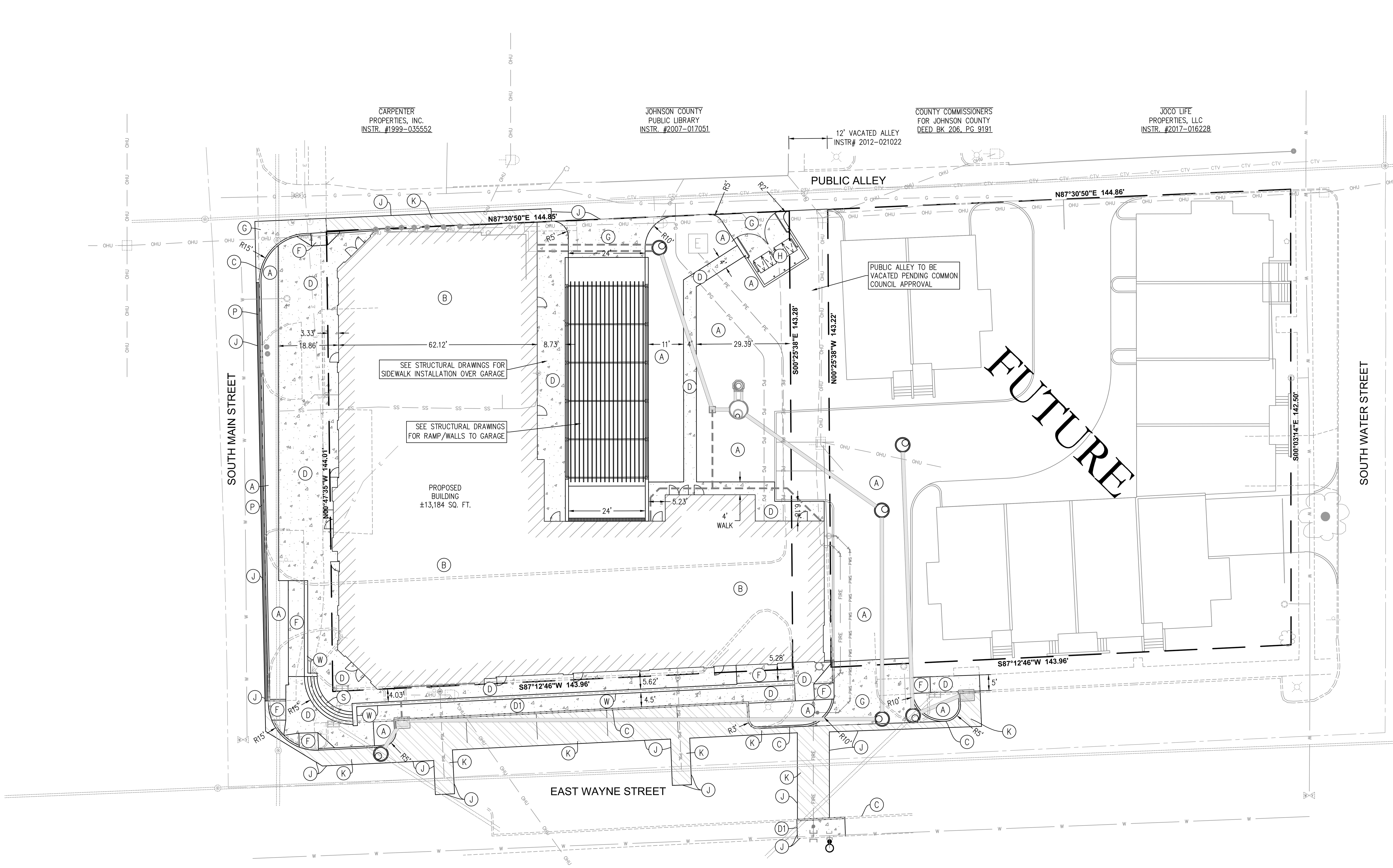


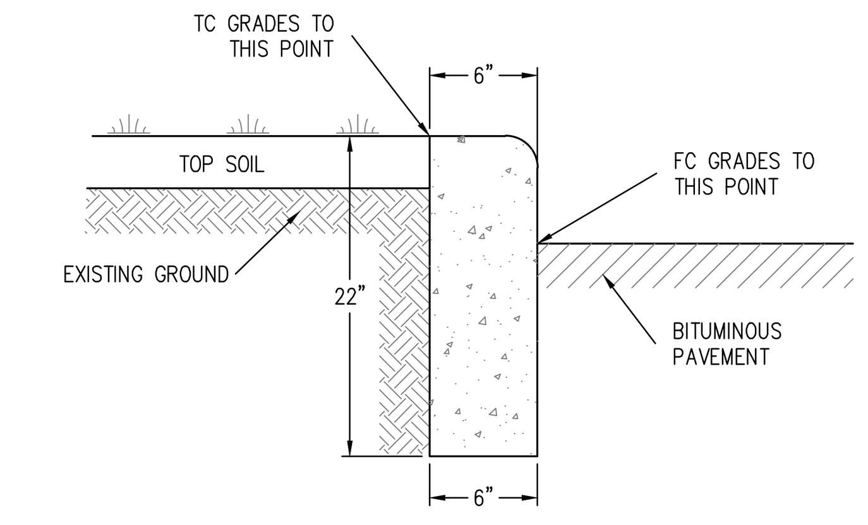
NOTE:
NO EARTHWORK DISTURBING ACTIVITY MAY COMMENCE UNTIL A STORM WATER MANAGEMENT PERMIT IS OBTAINED.

INDIANA 811 Know what's below. Call before you dig

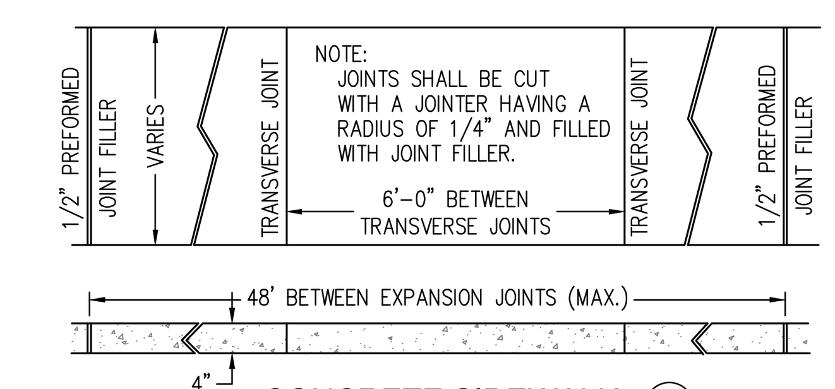
SITE DIMENSION LEGEND

- (A) MULCH SEEDING/LANDSCAPE AREAS
- (B) STRUCTURE FOUNDATION – PER BUILDING PLANS
- (C) STRAIGHT CONCRETE CURB (SEE DETAIL–THIS SHEET)
- (D) 4" CONCRETE SIDEWALK (SEE DETAIL–THIS SHEET)
- (D1) MONOLITHIC CONCRETE CURB AND SIDEWALK (SEE DETAIL–THIS SHEET)
- (F) HANDICAP RAMP (SEE DETAIL–THIS SHEET)
- (G) TYPICAL CONCRETE SECTION
  6" CONCRETE SLAB ON
  6" COMPACTED AGGREGATE #53 TYPE 'O' ON
  COMPACTED SUBGRADE (SEE DETAIL–THIS SHEET)
- (H) TRASH ENCLOSURE (SEE ARCHITECTURAL DRAWINGS)
- (J) SAWCUT
- (K) TYPICAL ASPHALT SECTION
  1.5" HMA SURFACE 9.5mm, ON
  2.5" HMA INTERMEDIATE 19.0mm, ON
  3" HMA BASE 25.0mm, ON
  6" COMPACTED AGGREGATE #53, ON
  COMPACTED SUBGRADE (SEE DETAIL–THIS SHEET)
- (P) FULL DEPTH PATCHING
  1.5" HMA SURFACE 9.5mm, ON
  8" PCCP, ON
  FLOWABLE BACKFILL (SEE DETAIL–THIS SHEET)
- (S) STAIRS (SEE DETAIL–SHEET 701)
- (W) MODULAR WALL (SEE DETAIL–SHEET 700)

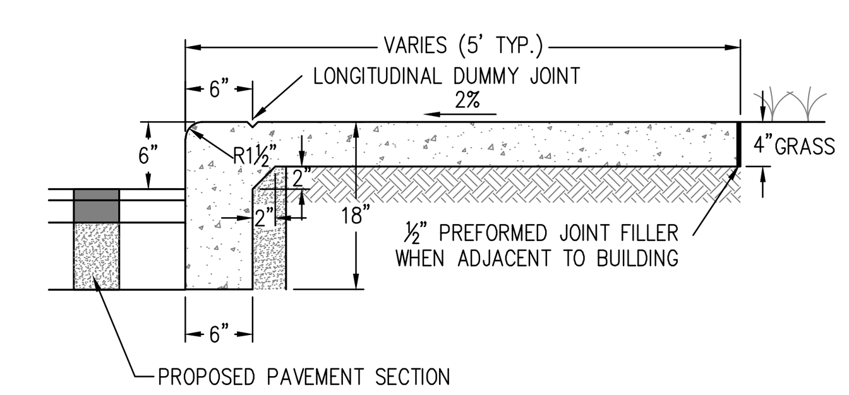




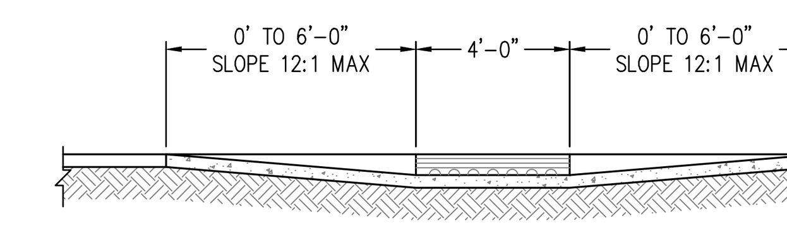
STRAIGHT CONCRETE CURB (C)
NOT TO SCALE



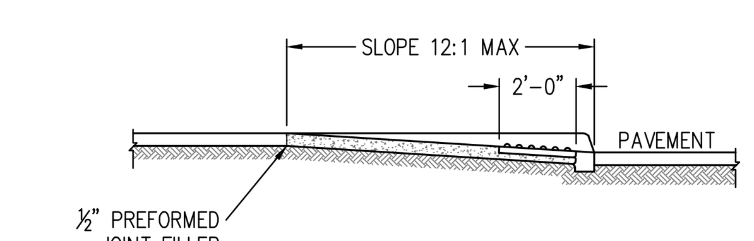
CONCRETE SIDEWALK (D)
NOT TO SCALE



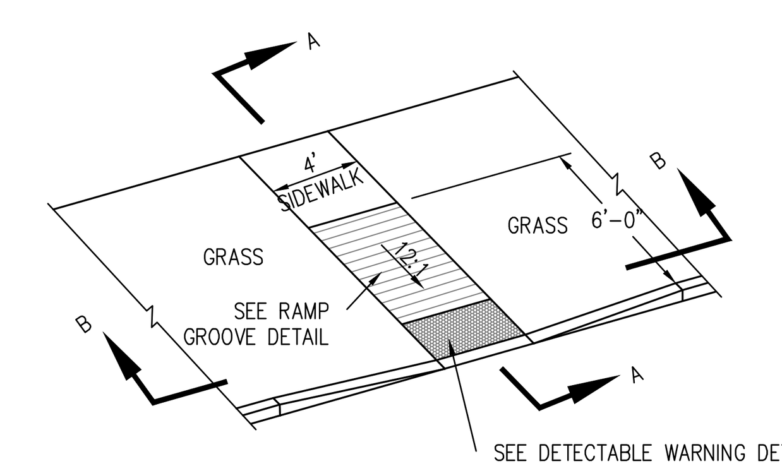
MONOLITHIC CURB AND SIDEWALK (D1)
NOT TO SCALE



SECTION B-B



SECTION A-A



SIDEWALK CURB RAMP TYPE A MODIFIED
NOT TO SCALE

SITEDIMENSION PLAN							
WAYNE STREET TOWNHOMES							
JOB No.	.	DRAWN	DEP/KLF	CHECKED	GJI		
DATE	APRIL 8, 2021	DESIGNED	CDM	APPR.	GJI		

CROSSROAD ENGINEERS, PC
TRANSPORTATION & DEVELOPMENT CONSULTANTS
3417 SHERMAN DRIVE
BEECH GROVE, IN 46107
(317) 780-1555
CROSSROADENGINEERS.COM

SHEET 300

GREGORY J. ILKO REGISTERED NO. 10300059 STATE OF INDIANA PROFESSIONAL ENGINEER

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SHEET 300

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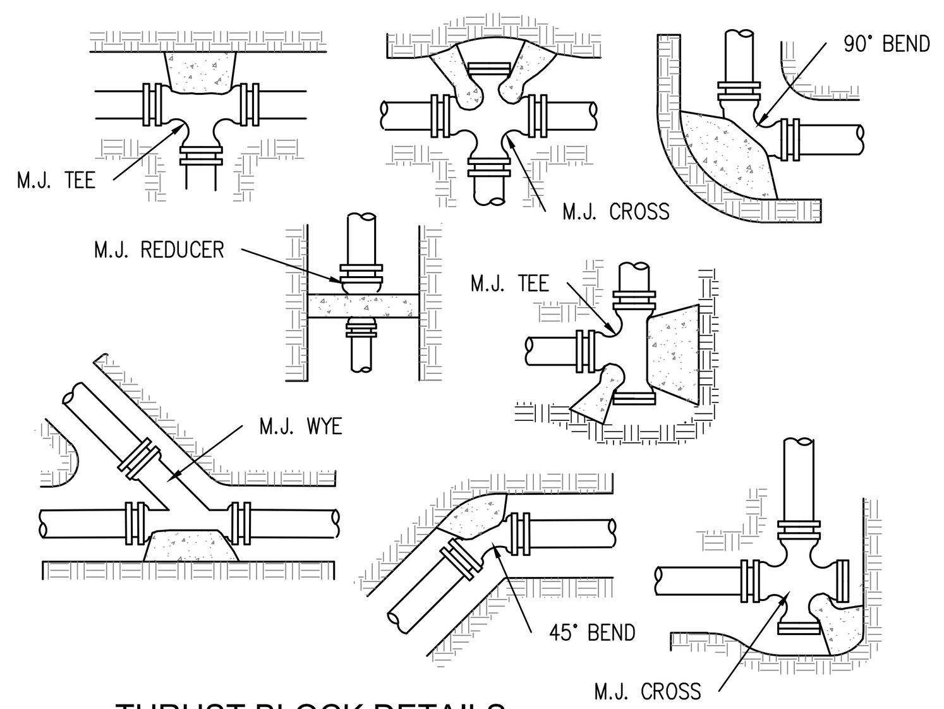
THRUST BLOCK SCHEDULE

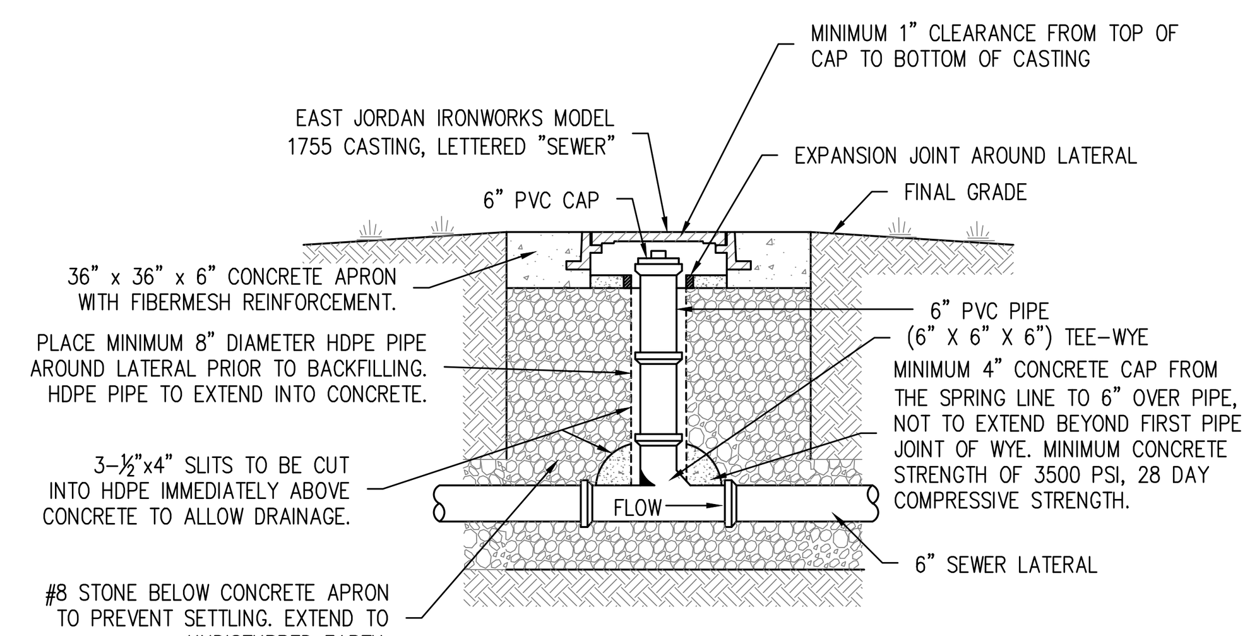
PIPE SIZE	ELBOWS 90°	ELBOWS 45°	ELBOWS 22½°	ELBOWS 11¼°	TEE	VALVES & HYDRANT	REDUCER
16"	37.8	19.1	11.2	3.0	28.6	21.4	16 X 14 3.6
14"	29.8	14.9	8.9	2.3	23.2	16.4	14 X 12 3.1
12"	21.1	8.6	6.6	1.7	16.6	10.5	12 X 10 2.6
10"	11.5	5.9	3.6	1.2	9.4	7.8	10 X 8 2.1
8"	7.2	3.7	2.1	1.2	5.4	4.6	8 X 6 1.6
6"	3.2	3.0	1.3	1.2	3.5	2.6	6 X 4 1.6
4" & UNDER	1.3	3.0	1.3	1.2	3.5	1.3	4 X 3 1.6

NOTE: CLASS 150 PIPE, TEST PRESSURE P.S.I.; SOIL BEARING: 2000 P.S.I. THRUST BLOCK CONTACT AREA OF UNDISTURBED EARTH BANK IN SQUARE FEET.

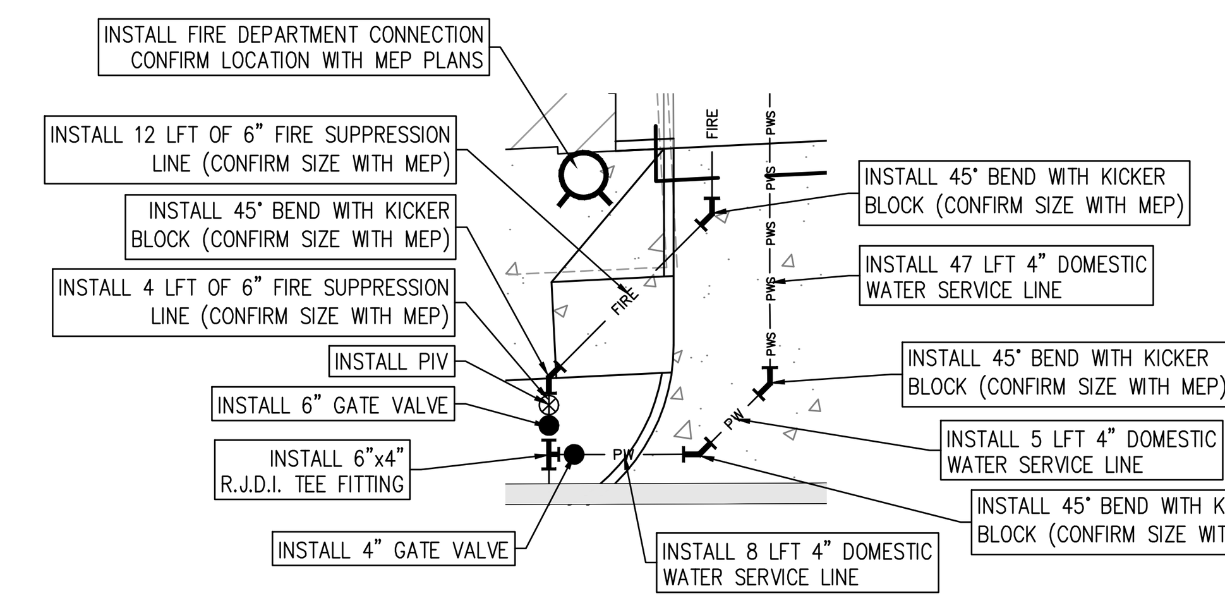
CONCRETE THRUST BLOCKS TO BE 2500 P.S.I. CONCRETE, POURED IN PLACE WITH SLUMP BETWEEN 1" MINIMUM AND 4" MAXIMUM



THRUST BLOCK DETAILS
NOT TO SCALE



TYPE II CLEANOUT DETAIL
NOT TO SCALE
(HARDSCAPE SURFACES AND ALL OTHER INSTALLATIONS BEYOND THREE FEET OF BUILDING)



DETAIL 'Z' - FIRE SERVICE VAULT
SCALE: 1"=20'

NOTES:
1. CONTRACTOR SHALL CONFIRM DOMESTIC WATER SERVICE AND FIRE PROTECTION LINE DIAMETERS WITH THE ARCHITECT PRIOR TO INSTALLATION.
2. CONTRACTOR SHALL FURNISH AND INSTALL VAULT PER INDIANA AMERICAN WATER COMPANY STANDARDS. CONTRACTOR SHALL SUBMIT SHOP DRAWINGS OF VAULT FOR REVIEW SHOWING ALL COMPONENTS.
3. CONTRACTOR SHALL CONFIRM DOMESTIC WATER METER REQUIREMENTS, INCLUDING LOCATION AND SIZE, WITH THE ARCHITECT AND INDIANA AMERICAN WATER COMPANY.
4. DOUBLE CHECK ASSEMBLY AND POST INDICATOR VALVE TO BE LOCATED INSIDE BUILDING. SEE MEP PLANS FOR DETAILS. DOUBLE CHECK ASSEMBLY PER INDIANA AMERICAN WATER STANDARDS.

INDIANA 811 — Know what's below. Call before you dig

20 0 20 40
SCALE: 1" = 20'

EXISTING LEGEND

- POWERPOLE
- POWERPOLE W/RISER
- LIGHT POLE
- ELECTRIC METER
- TELEPHONE MANHOLE
- WATER VALVE
- WATER METER
- GAS VALVE
- GAS METER
- CLEANOUT
- SIGN
- TREE & BUSH
- TEMP. BENCHMARK
- CONTOURS
- PROPERTY LINE
- PAVEMENT LINE
- PRIVACY FENCE
- GAS LINE
- WATER LINE
- CABLE TV LINE
- ELECTRIC LINE
- OVERHEAD UTILITY LINE
- SANITARY SEWER W/MANHOLE
- STORM SEWER W/ INLET
- REMOVAL/DEMOLISH
- ASPHALT
- GRAVEL
- CONCRETE

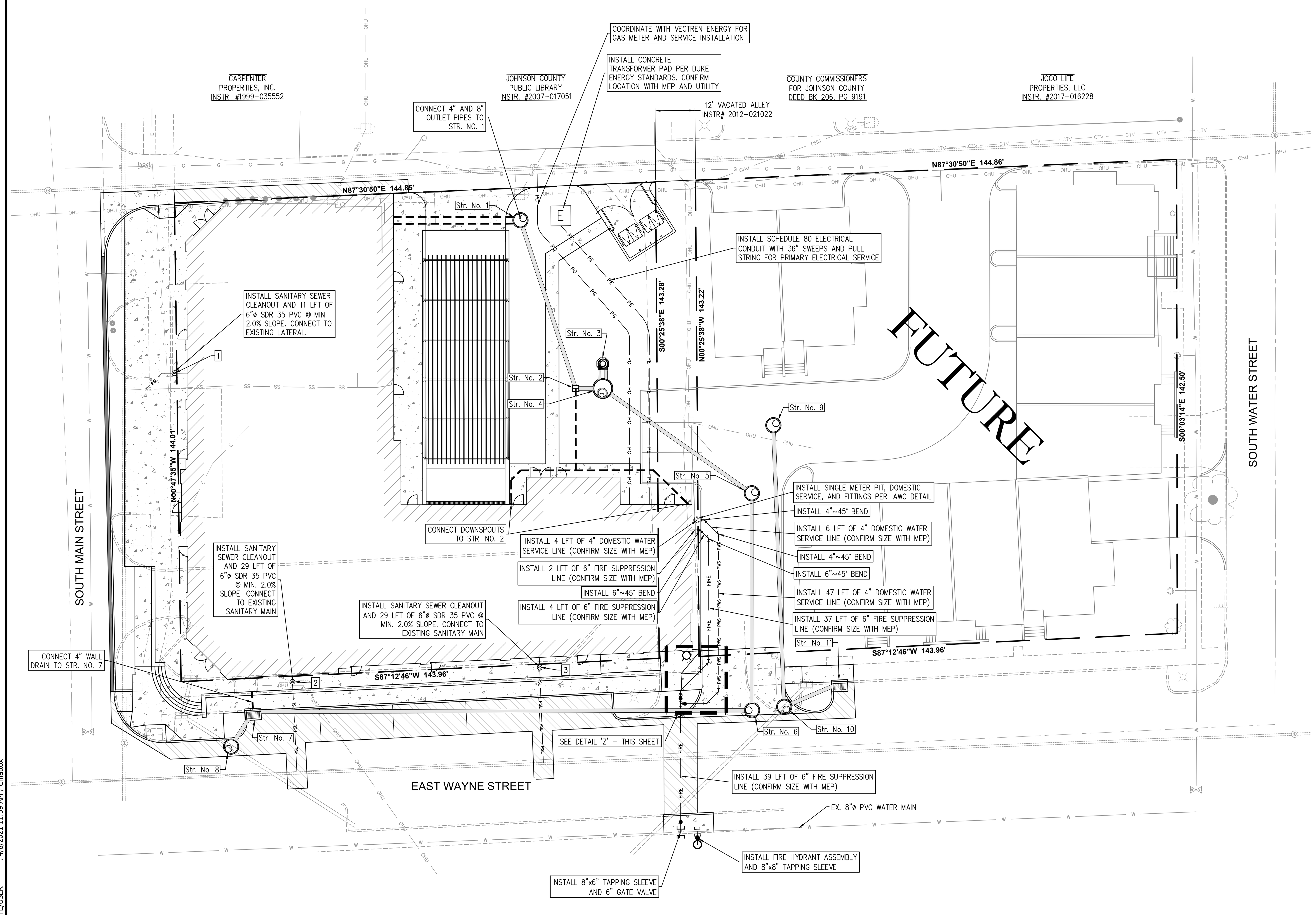
PROPOSED LEGEND

- PROPERTY LINE
- SANITARY SEWER LATERAL WITH CLEANOUT
- STORM SEWER W/MANHOLE & END SECTION
- UNDERDRAIN
- ELECTRIC LINE
- WATER LINE
- WATER SERVICE LINE
- GAS LINE
- STORM MANHOLES
- STORM INLETS
- STORM CURB INLETS
- AQUA-SWIRL UNITS
- TAPPING SLEEVE
- TEE
- 45° BEND
- FIRE HYDRANT
- WATER VALVE
- STORTZ FDC
- WATER METER
- PIV
- ELECTRIC TRANSFORMER
- DOWNSPOUT

SANITARY LATERAL DATA TABLE

INSTALL CLEANOUT AND 6"ø PVC (SDR-35) SANITARY LATERAL SLOPE SHALL BE 2.00%. CONTRACTOR SHALL CONFIRM CLEANOUT LOCATIONS AND LATERAL INVERT WITH BUILDING PLANS.

RUN	CLEANOUT TYPE	LENGTH	SLOPE	U.S. INVERT
1	TYPE II	11'	2.00%	725.33
2	TYPE II	2'	2.00%	722.95
3	TYPE II	27'	2.00%	722.95



STORM SEWER STRUCTURE TABLE	STORM SEWER STRUCTURE TABLE	STORM SEWER STRUCTURE TABLE
STR. DATA	STR. DATA	STR. DATA
STR. NO. 1 INSTALL TYPE 'C' MANHOLE WITH NEENAH R-1712 CASTING OR APPROVED EQUAL AND 53 LFT OF 12"ø RCP @ 0.78% RIM=727.82 INV IN (8"~W)=724.14 INV IN (4"~W)=724.14 INV OUT (12"~S)=724.14	**STR. NO. 5** INSTALL TYPE 'C' MANHOLE WITH NEENAH R-1712 CASTING OR APPROVED EQUAL AND 65 LFT OF 12"ø RCP @ 0.78% RIM=727.50 INV IN (12"~NW)=723.11 INV OUT (12"~S)=723.11	**STR. NO. 9** INSTALL TYPE 'C' MANHOLE WITH NEENAH R-1712 CASTING OR APPROVED EQUAL AND 85 LFT OF 12"ø RCP @ 1.00% RIM=727.75 INV OUT (12"~S)=722.71
STR. NO. 2 INSTALL TYPE 'E' INLET WITH NEENAH R-4215-C CASTING OR APPROVED EQUAL AND 8 LFT OF 12"ø RCP @ 0.78% RIM=727.08 INV IN (12"~N)=723.72 INV IN (12"~S)=723.72 INV OUT (12"~E)=723.72	**STR. NO. 6** INSTALL TYPE 'C' MANHOLE WITH NEENAH R-1712 CASTING OR APPROVED EQUAL AND 150 LFT OF 12"ø RCP @ 0.78% RIM=725.75 INV IN (12"~N)=722.60 INV OUT (12"~W)=722.60	**STR. NO. 10** INSTALL DOGHOUSE TYPE 'C' MANHOLE WITH NEENAH R-1712 CASTING OR APPROVED EQUAL AND CONNECT TO EXISTING PIPE RIM=726.10 INV IN (12"~NE)=721.86 INV IN (12"~N)=721.86 INV OUT (12"~SW)=721.86
STR. NO. 3 INSTALL AQUAL SWIRL AS-2 AND 7 LFT OF 8"ø HDPE @ 1.00% RIM=727.60 INV IN (8"~S)=723.60 INV OUT (8"~S)=723.60	**STR. NO. 7** INSTALL TYPE 'B' INLET WITH NEENAH R-3287-10V CASTING OR APPROVED EQUAL AND 12 LFT OF 12"ø RCP @ 0.78% RIM=724.75 INV IN (12"~E)=721.43 INV IN (4"~N)=722.70 INV OUT (12"~SW)=721.43	**STR. NO. 11** INSTALL TYPE 'B' INLET WITH NEENAH R-3287-10V CASTING OR APPROVED EQUAL AND 18 LFT OF 12"ø RCP @ 1.00% RIM=725.52 INV OUT (12"~SW)=722.04
STR. NO. 4 INSTALL DIVERSION STRUCTURE WITH NEENAH R-1712 CASTING OR APPROVED EQUAL AND 55 LFT OF 12"ø RCP @ 0.78% 7 LFT OF 8"ø HDPE @ 1.00% RIM=727.50 INV IN (12"~W)=723.66 INV IN (8"~N)=723.54 INV OUT (12"~SE)=723.54 INV OUT (8"~N)=723.66	**STR. NO. 8** INSTALL DOGHOUSE TYPE 'C' MANHOLE WITH NEENAH R-1712 CASTING OR APPROVED EQUAL AND CONNECT TO EXISTING PIPE RIM=724.89 INV IN (12"~NW)=721.37 INV IN (12"~NE)=721.33 INV OUT (12"~SE)=721.27	

FIRE PROTECTION NOTES

1. FIRE SUPPRESSION LINE, DOMESTIC WATER LINE, AND WATER METER INSTALLATIONS SHALL BE IN ACCORDANCE WITH THE INDIANA AMERICAN WATER UTILITY STANDARDS AND SPECIFICATIONS. CONTRACTOR SHALL COORDINATE WITH INDIANA AMERICAN WATER FOR CONNECTION AND TESTING PROCEDURES AND REQUIREMENTS. ALL FIRE SERVICE LINES AND DOMESTIC WATER LINES SHALL BE INSTALLED WITH A MINIMUM 54 INCHES OF COVER FROM FINISH GRADE. SERVICE LINES SHALL BE DEFLECTED AS REQUIRED TO MAINTAIN MINIMUM SEPARATION REQUIREMENTS AT ALL UTILITY CROSSINGS.
2. CONTRACTOR SHALL CONFIRM FIRE SUPPRESSION LINE, DOMESTIC WATER SERVICE LINE, AND WATER METER SIZE WITH MEP PLANS PRIOR TO INSTALLATION OR ORDERING MATERIALS.
3. CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING TRAFFIC AND PROVIDING ALL NECESSARY FLAGMAN, BARRELS, SIGNAGE, ETC. DURING CONSTRUCTION. ALL APPLICABLE M.U.T.C.D. STANDARDS SHALL GOVERN THIS WORK.
4. CONTRACTOR SHALL COORDINATE WITH APPLICABLE UTILITY COMPANIES AND BUILDING PLANS FOR WATER, CABLE, ELECTRIC, AND TELEPHONE CONNECTION SERVICE POINTS.
5. COORDINATE INSTALLATION OF FIRE HYDRANTS WITH INDIANA AMERICAN WATER AND THE CITY OF FRANKLIN FIRE DEPARTMENT. TYPE, MATERIAL, AND MANUFACTURER OF FIRE HYDRANTS SHALL BE IN ACCORDANCE WITH FRANKLIN FIRE DEPARTMENT REQUIREMENTS. ALL PUBLIC FIRE HYDRANTS ARE TO BE YELLOW AND ALL PRIVATE FIRE HYDRANTS ARE TO BE RED WITH THE TOP CAP COLOR CODED TO SHOW WATER FLOW, AS FOLLOWS: 1500 gpm=BLUE, 1000-1499 gpm=GREEN, AND 500-999 gpm=ORANGE.
6. ALL HYDRANTS SHALL HAVE A STORZ CONNECTION.
7. ALL HYDRANTS WITHIN 300 FEET SHALL BE OPERATIONAL BEFORE ANY ABOVE GRADE CONSTRUCTION.
8. EXISTING UTILITY SIZE AND MATERIAL INFORMATION SHOWN ON THESE PLANS ARE PER THE BEST GRAPHICAL AND VISIBLE INFORMATION AVAILABLE. CONFLICTS MAY EXIST AND IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO FIELD VERIFY ALL SIZING AND MATERIAL INFORMATION PROVIDED. IF ACTUAL CONDITIONS DIFFER FROM THAT INFORMATION SHOWN ON THE PLANS, THE CONTRACTOR SHALL, PRIOR TO THE INSTALLATION OF ANY PROPOSED INFRASTRUCTURE, NOTIFY THE DESIGN ENGINEER IMMEDIATELY.

UTILITIES NOTES

1. CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING TRAFFIC AND PROVIDING ALL NECESSARY FLAGMAN, BARRELS, SIGNAGE, ETC. DURING CONSTRUCTION. ALL APPLICABLE M.U.T.C.D. STANDARDS SHALL GOVERN THIS WORK.
2. CONTRACTOR SHALL COORDINATE WITH APPLICABLE UTILITY COMPANIES AND BUILDING PLANS FOR WATER, CABLE, ELECTRIC, AND TELEPHONE CONNECTION SERVICE POINTS.
3. CONTRACTOR SHALL CONFIRM ELECTRICAL TRANSFORMER LOCATION, DIMENSIONS, AND SPECIFICATIONS, AS WELL AS, ELECTRICAL CONDUIT DIAMETER WITH MEP PLANS AND DUKE ENERGY. CONTRACTOR SHALL COORDINATE WITH DUKE ENERGY FOR NECESSARY ELECTRIC SERVICE REQUIREMENTS.
4. CONTRACTOR SHALL CONFIRM ELECTRICAL REQUIREMENTS FOR PARKING LOT LIGHTS WITH MEP AND ELECTRICIAN.
5. EXISTING UTILITY SIZE AND MATERIAL INFORMATION SHOWN ON THESE PLANS ARE PER THE BEST GRAPHICAL AND VISIBLE INFORMATION AVAILABLE. CONFLICTS MAY EXIST AND IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO FIELD VERIFY ALL SIZING AND MATERIAL INFORMATION PROVIDED. IF ACTUAL CONDITIONS DIFFER FROM THAT INFORMATION SHOWN ON THE PLANS, THE CONTRACTOR SHALL, PRIOR TO THE INSTALLATION OF ANY PROPOSED INFRASTRUCTURE, NOTIFY THE DESIGN ENGINEER IMMEDIATELY.
6. CONTRACTOR SHALL CONFIRM DOWNSPOUT LOCATIONS WITH BUILDING PLANS.
7. CONTRACTOR SHALL CONFIRM DEPTH AND LOCATION OF SANITARY LATERAL EXITING THE BUILDING WITH MEP AND BUILDING PLANS.
8. CONTRACTOR SHALL MAINTAIN 10 FOOT MINIMUM HORIZONTAL SEPARATION BETWEEN PARALLEL WATER AND SEWER LINES. CONTRACTOR SHALL MAINTAIN 2 FOOT MINIMUM VERTICAL SEPARATION BETWEEN WATER AND SEWER LINE CROSSINGS WITH THE WATER LINES LOCATED ABOVE THE SEWER LINES.
9. ALL FIELD TILES DISTURBED DURING CONSTRUCTION MUST BE REPAIRED/CONNECTED TO NEW DRAINAGE FACILITIES.
10. CONTRACTOR SHALL COORDINATE WITH THE CITY OF FRANKLIN FOR AN INSPECTION OF THE SANITARY SEWER LATERAL FORCE MAIN CONNECTION TO THE EXISTING SEWER.

CROSSROAD ENGINEERS, PC
TRANSPORTATION & DEVELOPMENT CONSULTANTS

UTILITY PLAN

WAYNE STREET TOWNHOMES

JOB No.	DATE	DRAWN	DESIGNED	CHECKED	APPR.
-	APRIL 8, 2021	DEP/KLF	CDM	GJI	GJI

GREGORY J. ILKO
REGISTERED NO. 10300059
STATE OF INDIANA
PROFESSIONAL ENGINEER

REVISIONS: NO. | DATE | BY | APPR.

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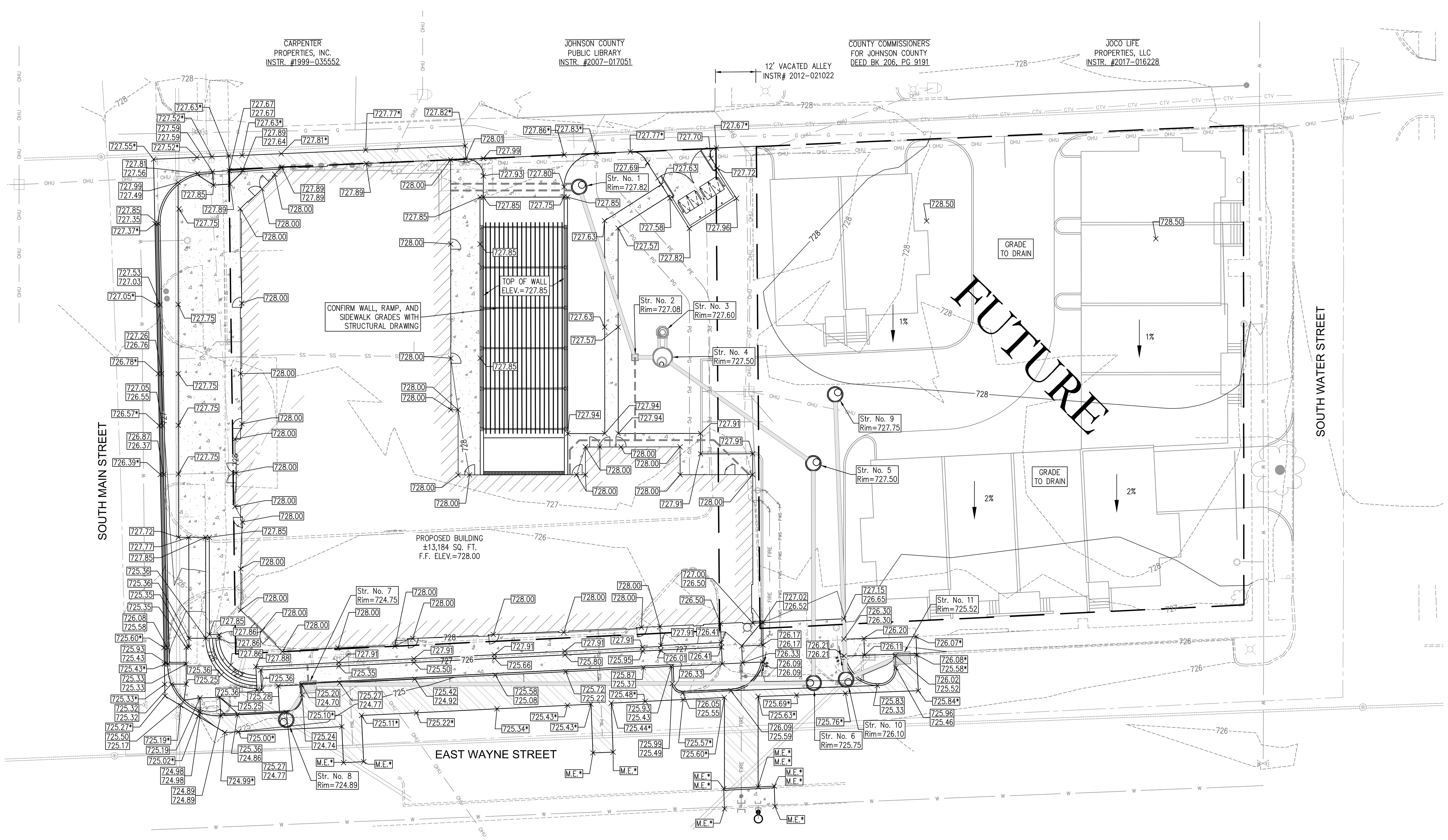

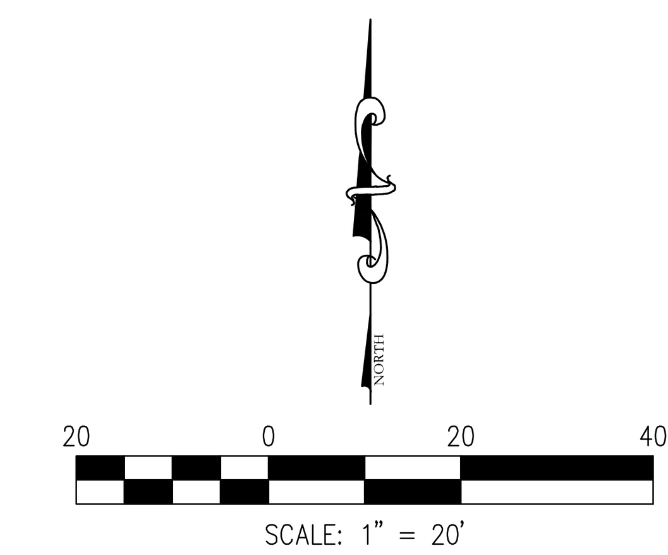

GRADING LEGEND

860.00 TOP OF CURB 859.50 EDGE OF PAVEMENT 860.00 FINISH GRADE	PROPOSED ELEVATIONS
860.00 * 859.50 * 860.00 * M.E. *	EXISTING ELEVATIONS (TO BE FIELD VERIFIED)
FFE = XXX.XX	PROPOSED FINISH FLOOR ELEVATION
	PROPOSED DRAINAGE SWALE
800	EXISTING CONTOURS
800	PROPOSED CONTOURS
GRADE BREAK	GRADE BREAK
**	CURB HEIGHT TO TAPER FROM 0.5' TO 0.0' IN 1 LFT.

GRADING NOTES

1. CONTRACTOR SHALL PROVIDE POSITIVE DRAINAGE AWAY FROM ALL BUILDINGS IN FINAL GRADING OF SITE. CONTRACTOR SHALL COORDINATE WITH THE ARCHITECT TO DETERMINE PROPER FOUNDATION EXPOSURE FOR EACH BUILDING TYPE, HOWEVER, IN NO INSTANCE SHALL DRAINAGE TOWARDS THE BUILDING FOUNDATION BE ALLOWED.
2. CONTRACTOR SHALL NOT ALLOW DRAINAGE FROM PROJECT SITE TO DISCHARGE ONTO ADJACENT PROPERTIES IN FINAL GRADING OF SITE. CONTRACTOR SHALL PLACE A BERM WHERE NECESSARY. SEE REAR DITCH DETAIL.

BENCHMARK INFORMATION

ORIGINATING BENCHMARK

DESIGNATION – X 13
PID – KA0010
STATE/COUNTY – IN/MORGAN
USGS QUAD – MOORESVILLE EAST (1980)

VERT ORDER – FIRST CLASS II

DESCRIBED BY COAST AND GEODETIC SURVEY 1946
1.2 MI N FROM WAVERLY.
IN JOHNSON COUNTY, 1.2 MILES NORTH ALONG STATE HIGHWAY 37 FROM THE INTERSECTION OF STATE HIGHWAY 144 AT WAVERLY, MORGAN COUNTY, 125 YARDS NORTH OF THE MORGAN-JOHNSON COUNTY LINE, 26 FEET WEST OF THE CENTERLINE OF THE HIGHWAY, IN LINE WITH THE WEST RIGHT-OF-WAY FENCE, 1.5 FEET SOUTH OF A WHITE WOODEN WITNESS POST, AND ABOUT 2 FEET HIGHER THAN THE HIGHWAY. A STANDARD DISK, STAMPED 686.370 X 13 1930 AND SET IN THE TOP OF A CONCRETE POST PROJECTING 7 INCHES ABOVE GROUND.

RECOVERY NOTE BY IN DEPT OF NAT RES 1985
NEW DESC– AT THE INTERSECTION OF NEW STATE ROAD 144 AND OLD STATE ROAD 37, IN THE SOUTHWEST QUARTER OF THE INTERSECTION, WITNESS POST IS GONE RIGHT-OF-WAY FENCE IS GONE, ALL OTHER INFORMATION APPEARS TO BE CORRECT.

ELEVATION = 685.94 (NAVD 88)

TBM #404
NORTHWEST CORNER OF BOTTOM OF CONCRETE STEP FOR "THE GARMENT FACTORY" MAIN ENTRANCE ON THE NORTH SIDE OF BUILDING. LOCATION ON SOUTH SIDE OF "E. WAYNE ST."

ELEV. = 727.04

GRADING PLAN

WAYNE STREET TOWNHOMES

JOB No.	.	DRAWN	DEP/KLF	CHECKED	GJI
DATE	APRIL 8, 2021	DESIGNED	CDM	APPR.	GJI

CROSSROAD ENGINEERS, PC
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BEECH GROVE, IN 46107
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CROSSROADENGINEERS.COM

GREGORY J. ILKO REGISTERED NO. 10300059 STATE OF INDIANA PROFESSIONAL ENGINEER

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SHEET 500

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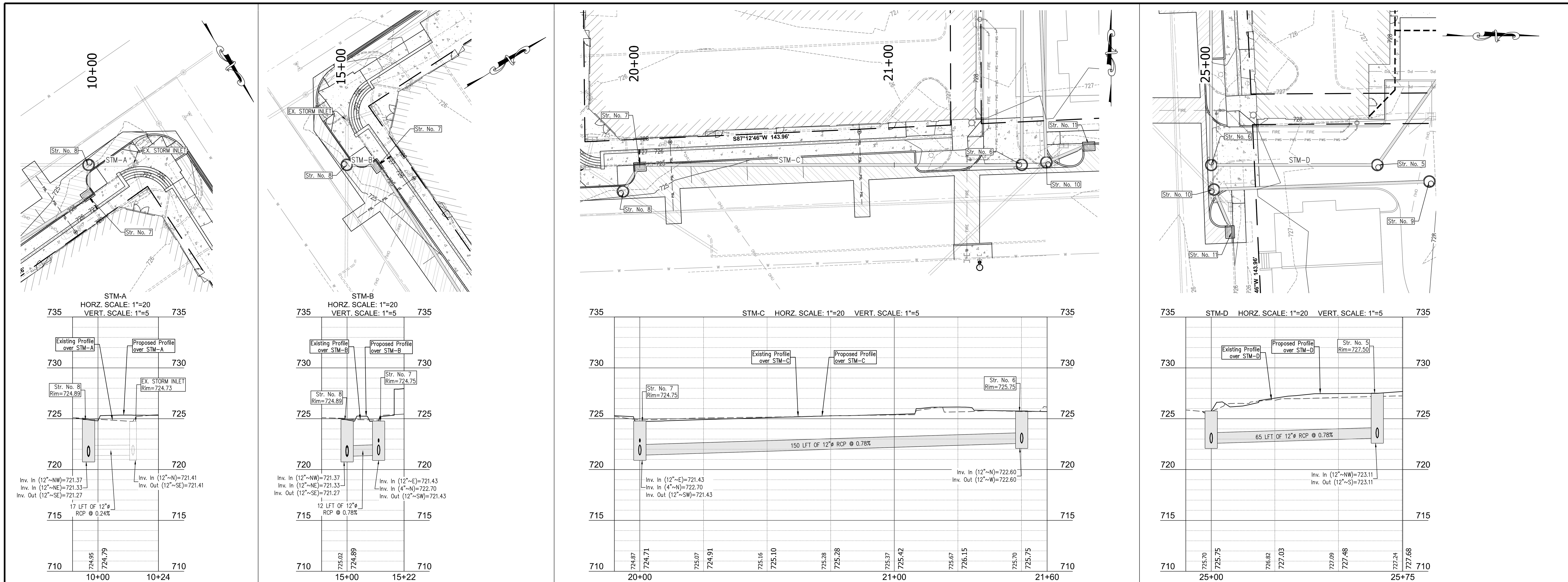

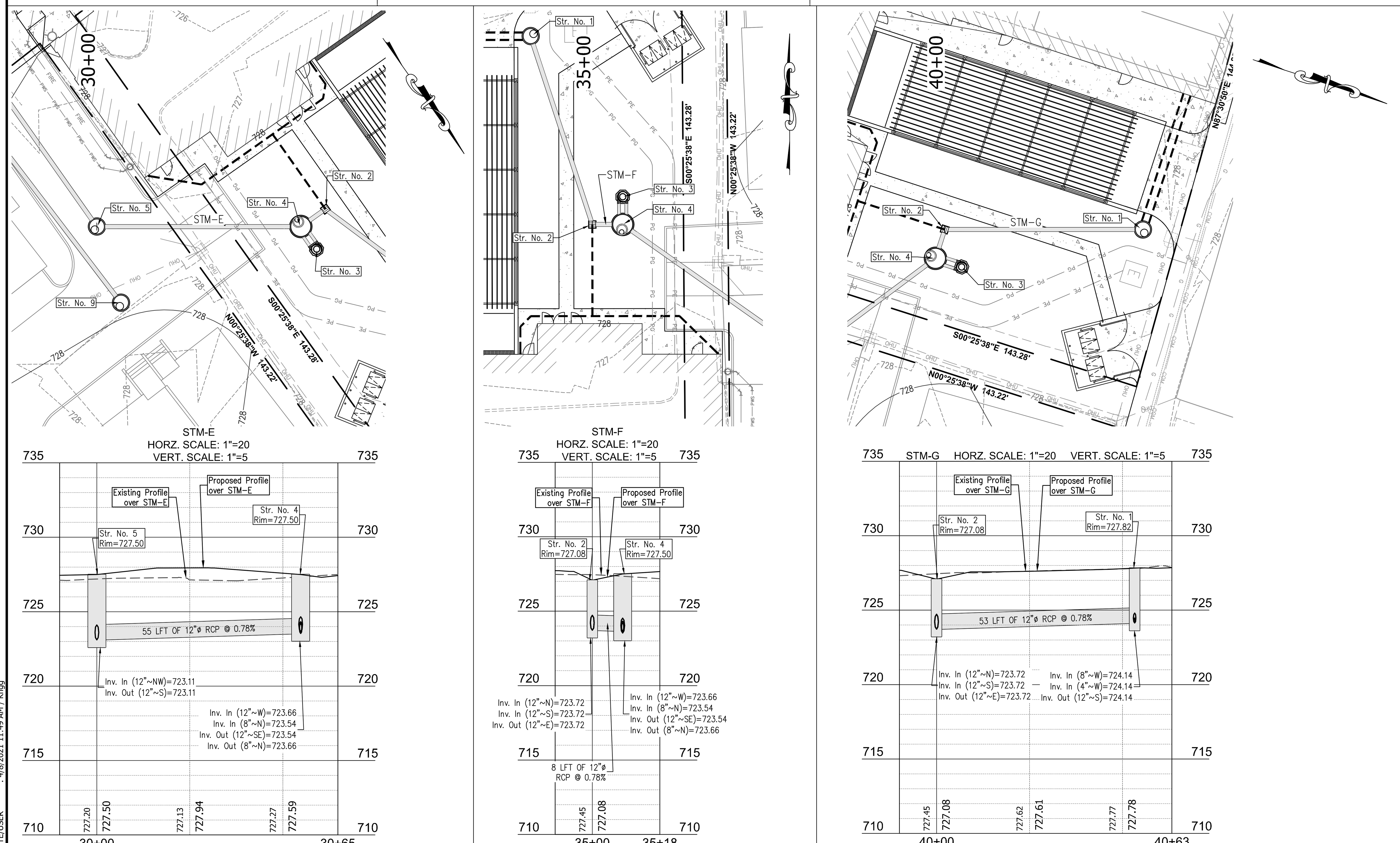

STORM SEWER STRUCTURE TABLE
STR. DATA
STR. NO. 1 INSTALL TYPE 'C' MANHOLE WITH NEENAH R-1712 CASTING OR APPROVED EQUAL AND 53 LFT OF 12"ø RCP @ 0.78% RIM=727.82 INV IN (8"~W)=724.14 INV IN (4"~W)=724.14 INV OUT (12"~S)=724.14
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STORM SEWER STRUCTURE TABLE
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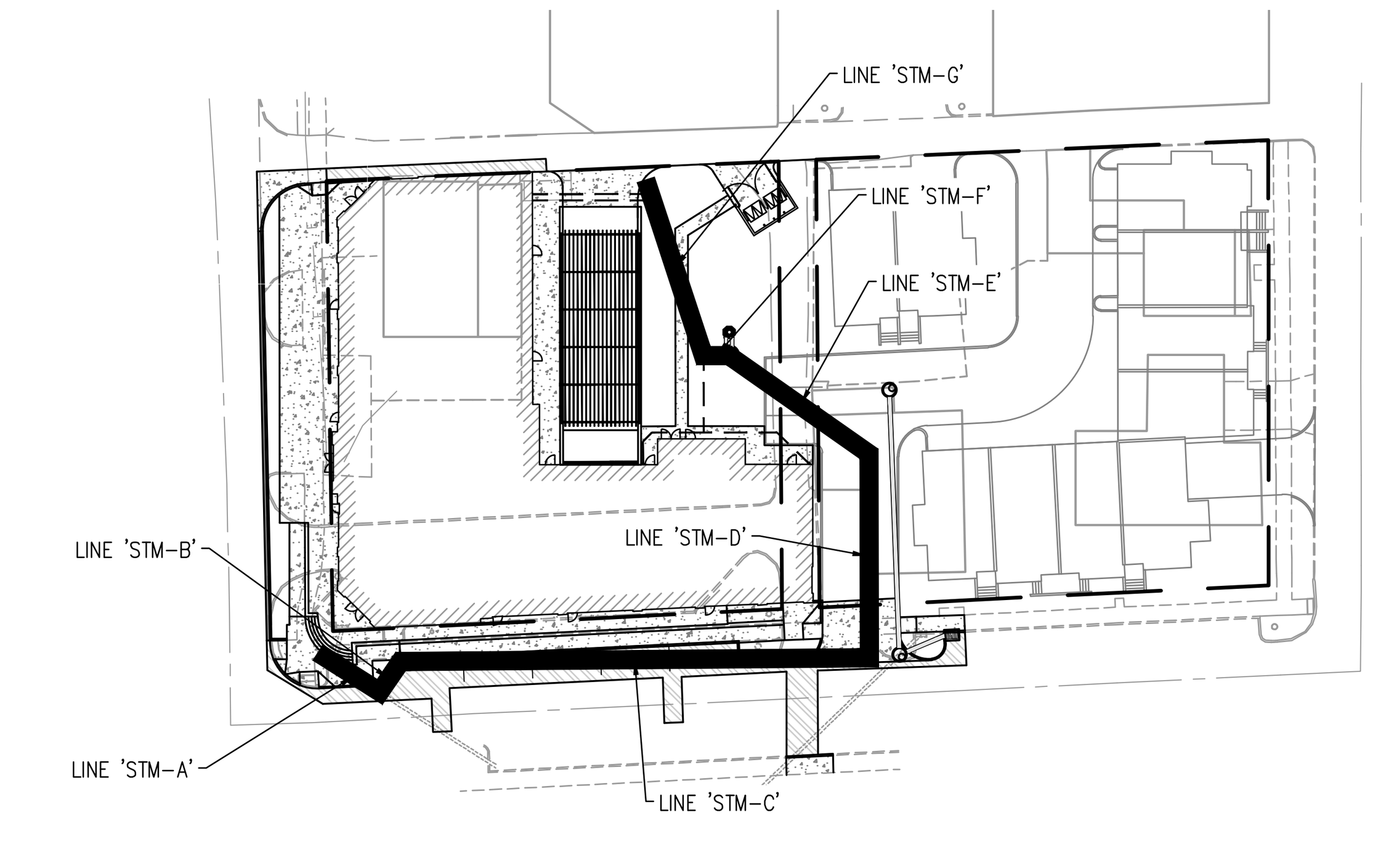
NOTE:
NO EARTHWORK DISTURBING ACTIVITY MAY COMMENCE UNTIL A STORM WATER MANAGEMENT PERMIT IS OBTAINED.

INDIANA 811 Know what's below. Call before you dig.

SCALE: 1" = 20'

PROPOSED LEGEND

- PROPERTY LINE
- SANITARY SEWER LATERAL WITH CLEANOUT
- STORM SEWER W/MANHOLE & END SECTION
- UNDERDRAIN
- ELECTRIC LINE
- WATER LINE
- WATER SERVICE LINE
- GAS LINE
- STORM MANHOLES
- STORM INLETS
- STORM CURB INLETS
- AQUA-SWIRL UNITS
- TAPPING SLEEVE
- TEE
- 45° BEND
- FIRE HYDRANT
- WATER VALVE
- STORTZ FDC
- WATER METER
- PIV
- ELECTRIC TRANSFORMER
- DOWNSPOUT



KEYMAP
NO SCALE

STORM PLAN AND PROFILE

WAYNE STREET TOWNHOMES

JOB No.	.	DRAWN	DEP/KLF	CHECKED	GJI
DATE	APRIL 8, 2021	DESIGNED	CDM	APPR.	GJI

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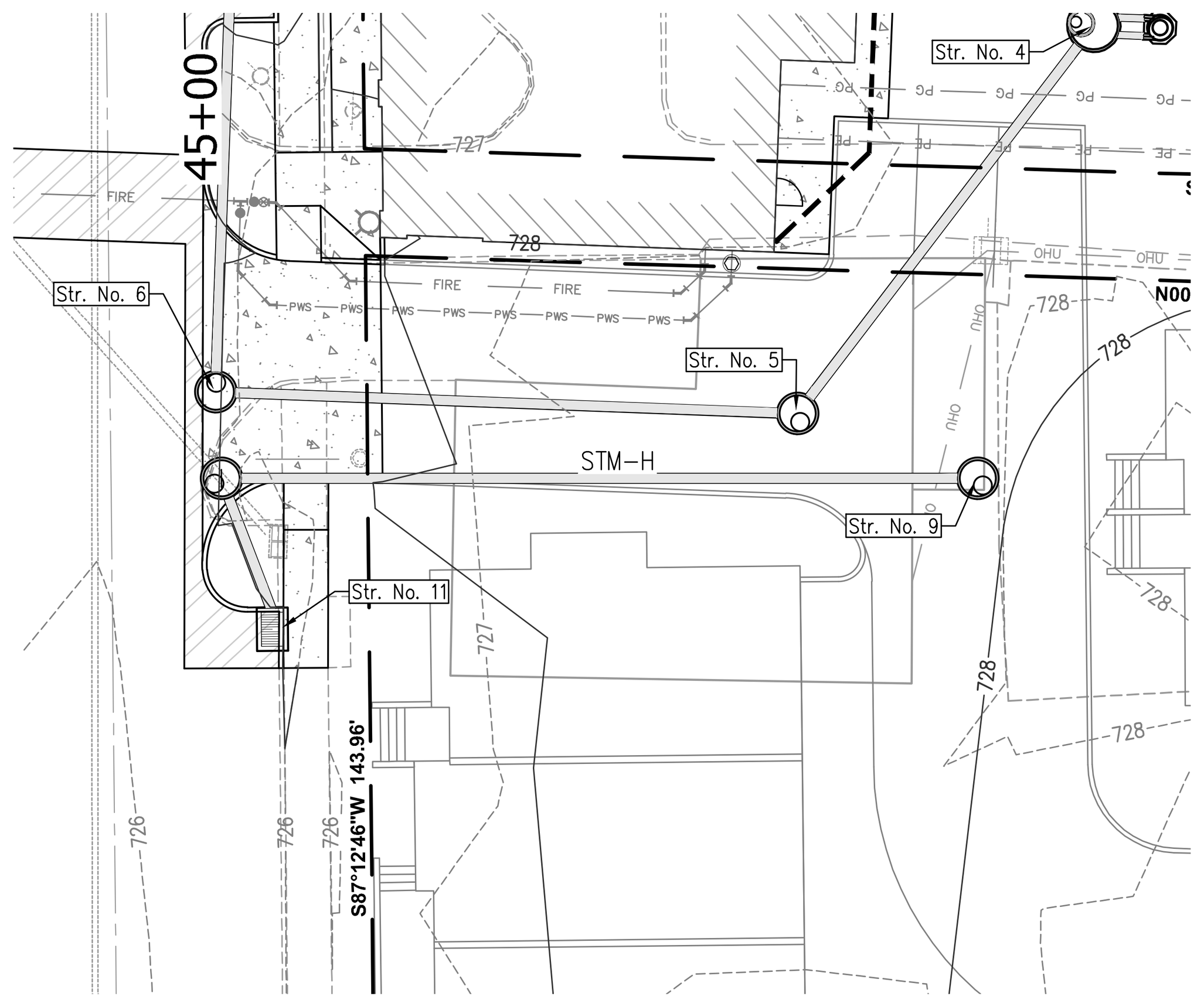

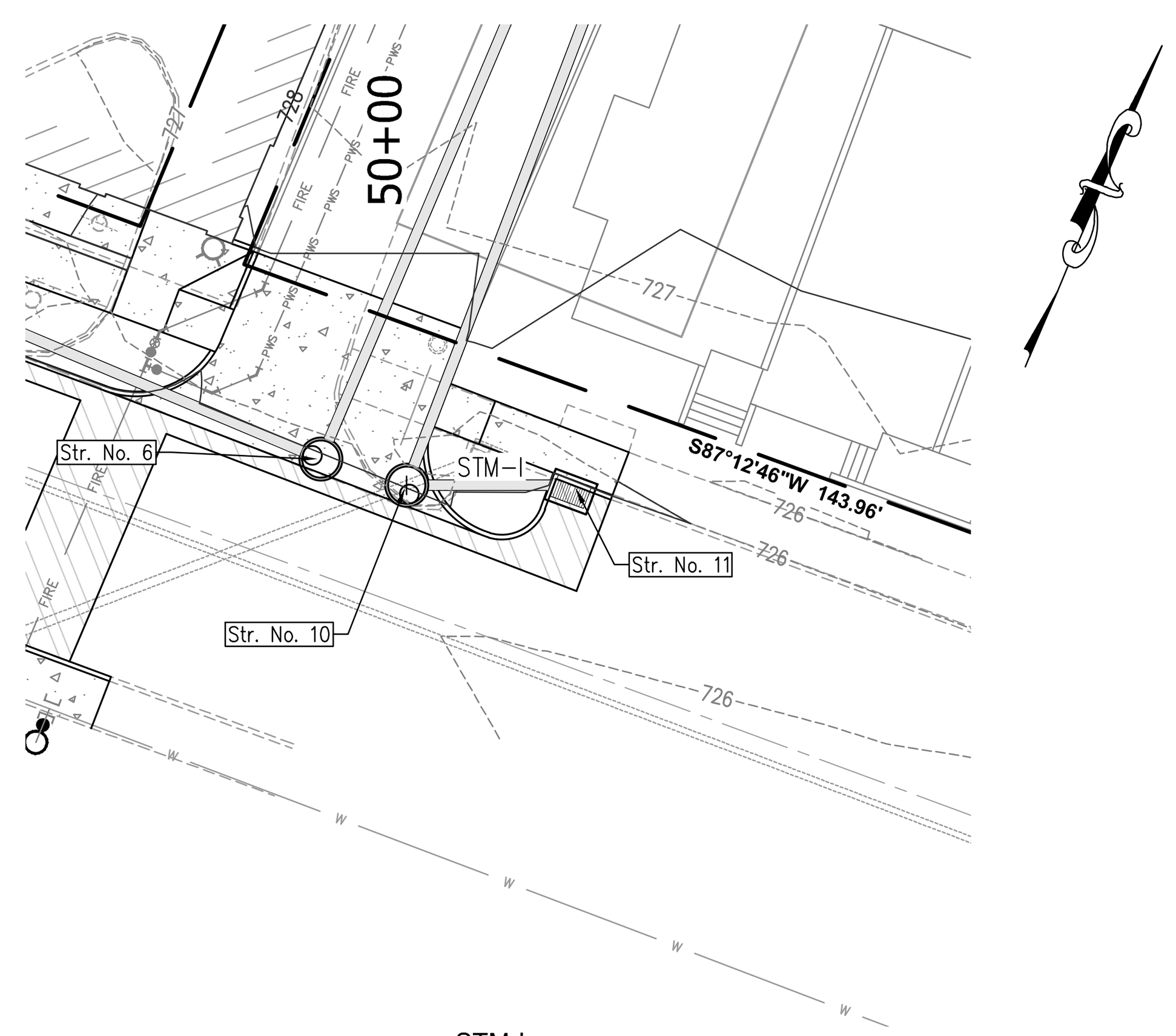

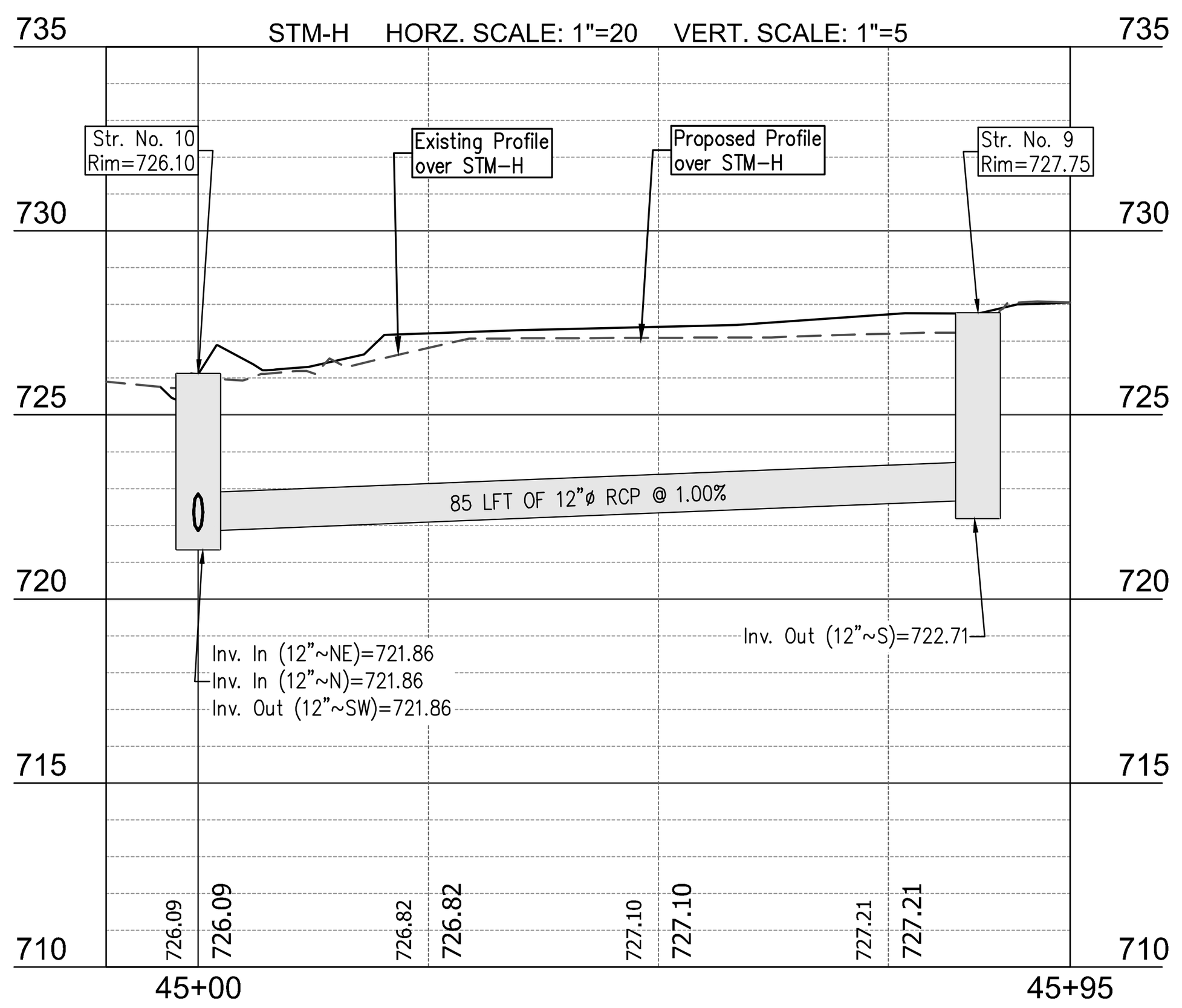

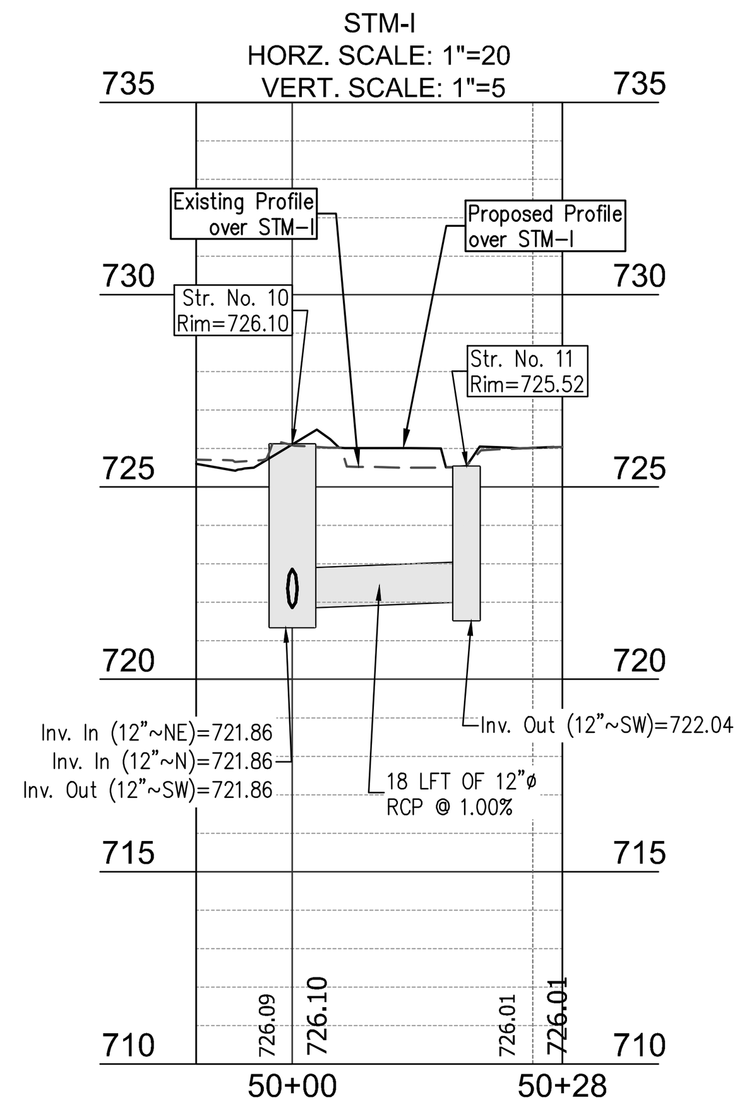

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INDIANA 811 — Know what's below. Call before you dig.

20 0 20 40
SCALE: 1" = 20'

PROPOSED LEGEND

- PROPERTY LINE
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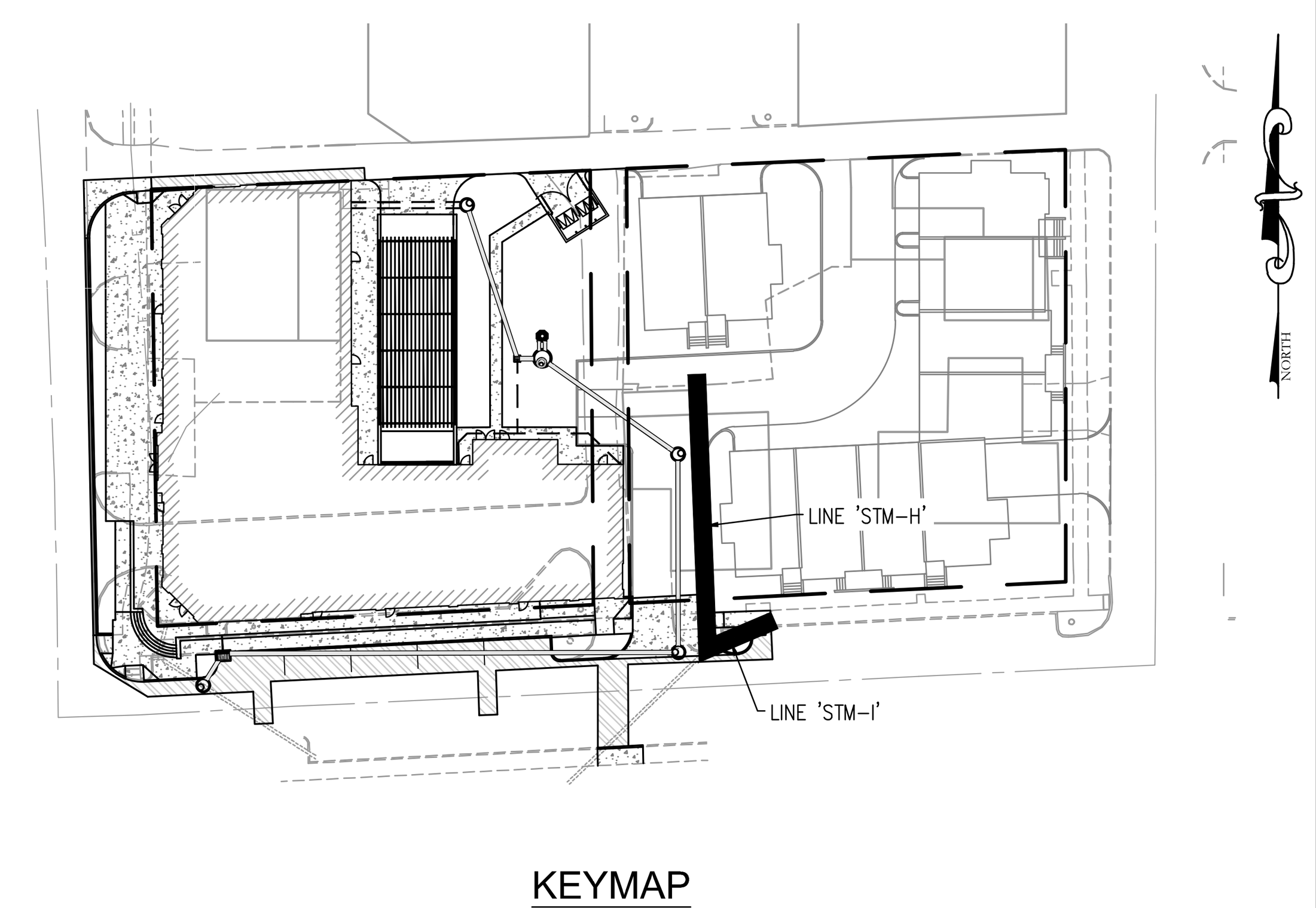

KEYMAP
NO SCALE

STORM PLAN AND PROFILE

WAYNE STREET TOWNHOMES

JOB No.	.	DRAWN	DEP/KLF	CHECKED	GJI
DATE	APRIL 8, 2021	DESIGNED	CDM	APPR.	GJI

CROSSROAD ENGINEERS, PC
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CROSSROADENGINEERS.COM

SHEET 601

GREGORY J. ILKO REGISTERED NO. 10300059 STATE OF INDIANA PROFESSIONAL ENGINEER

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SHEET 601

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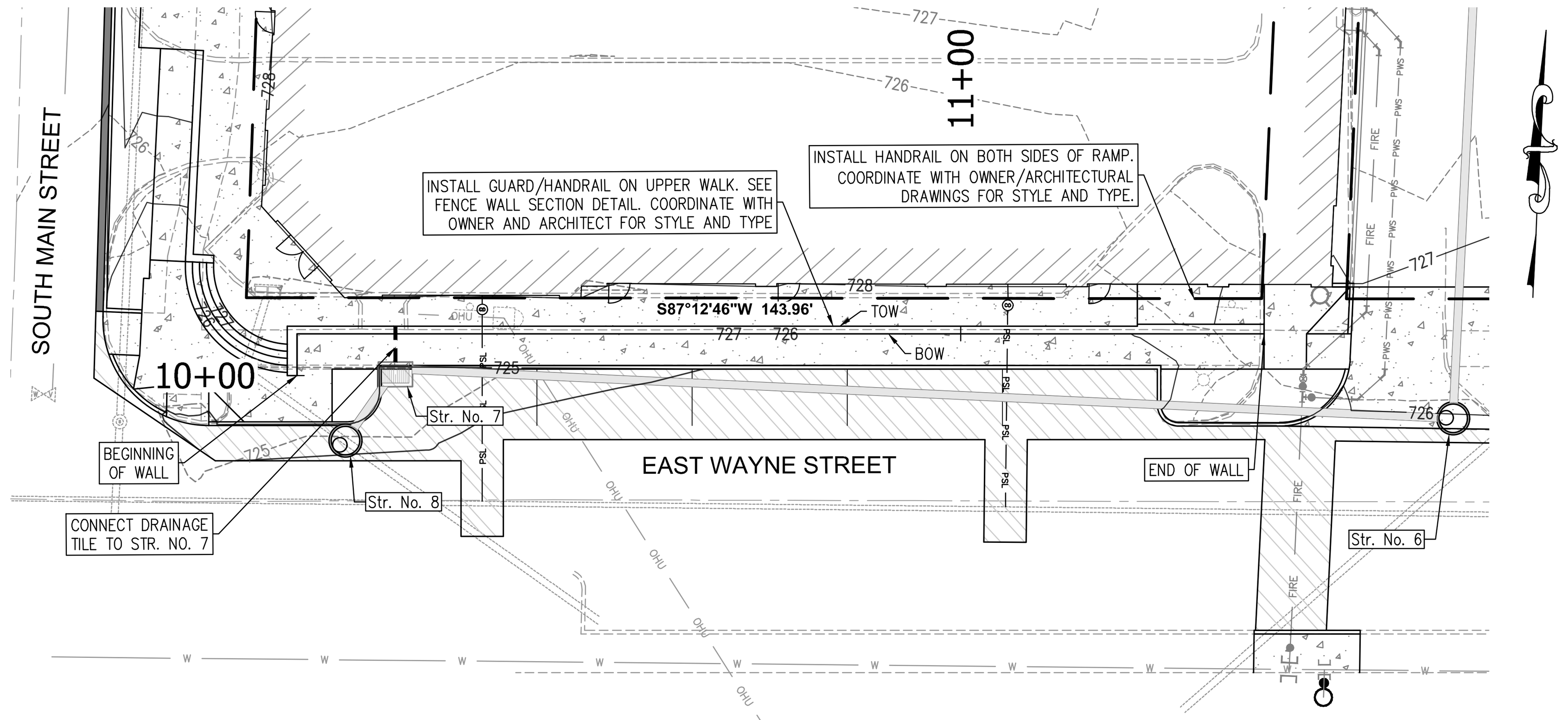
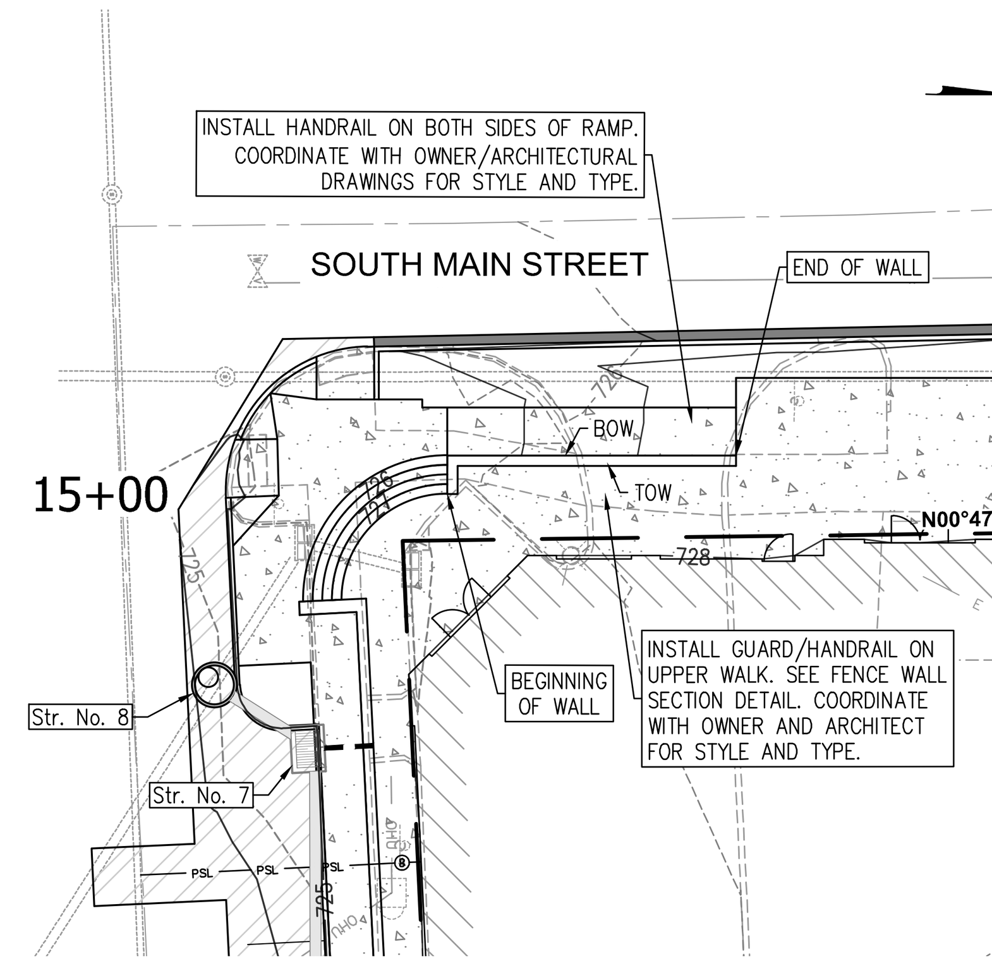
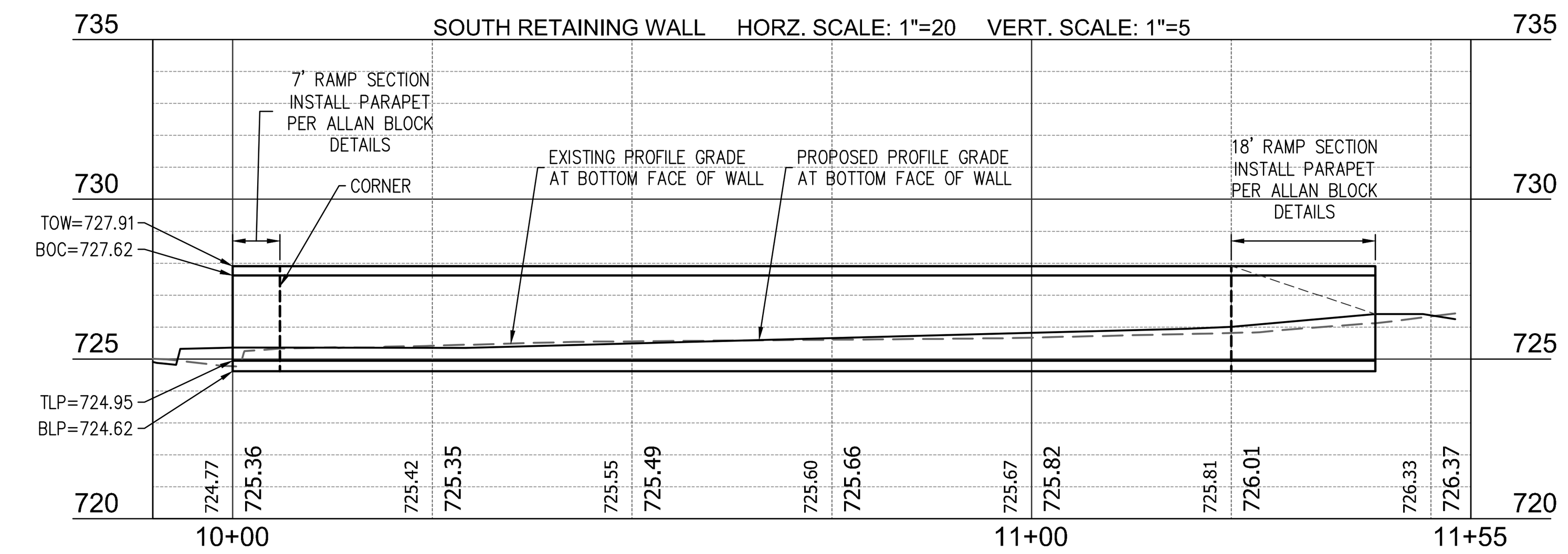
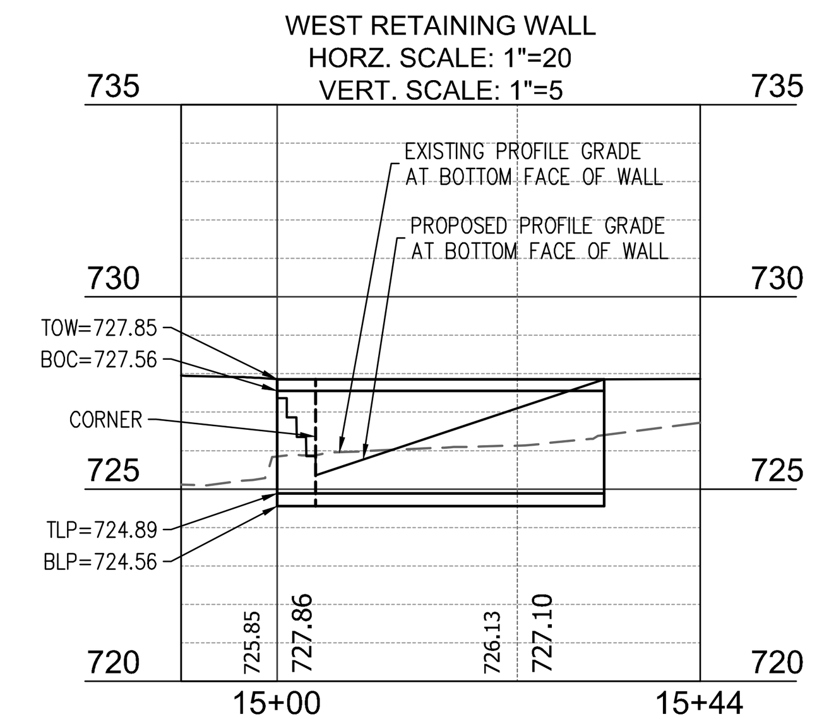
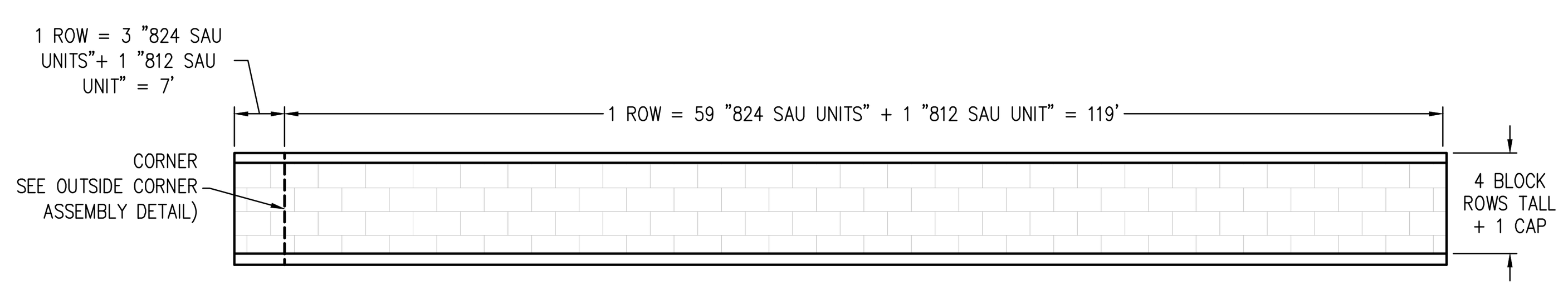


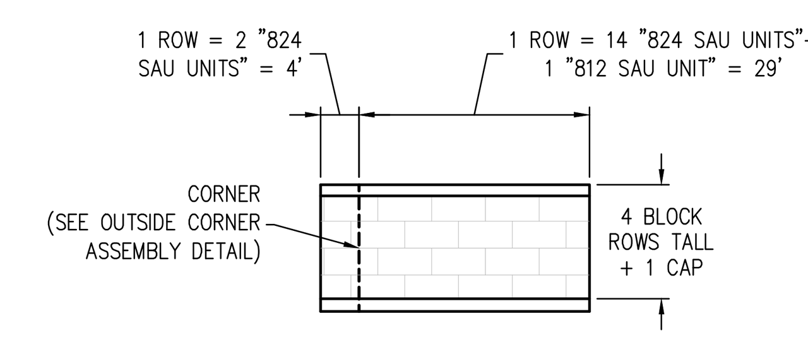




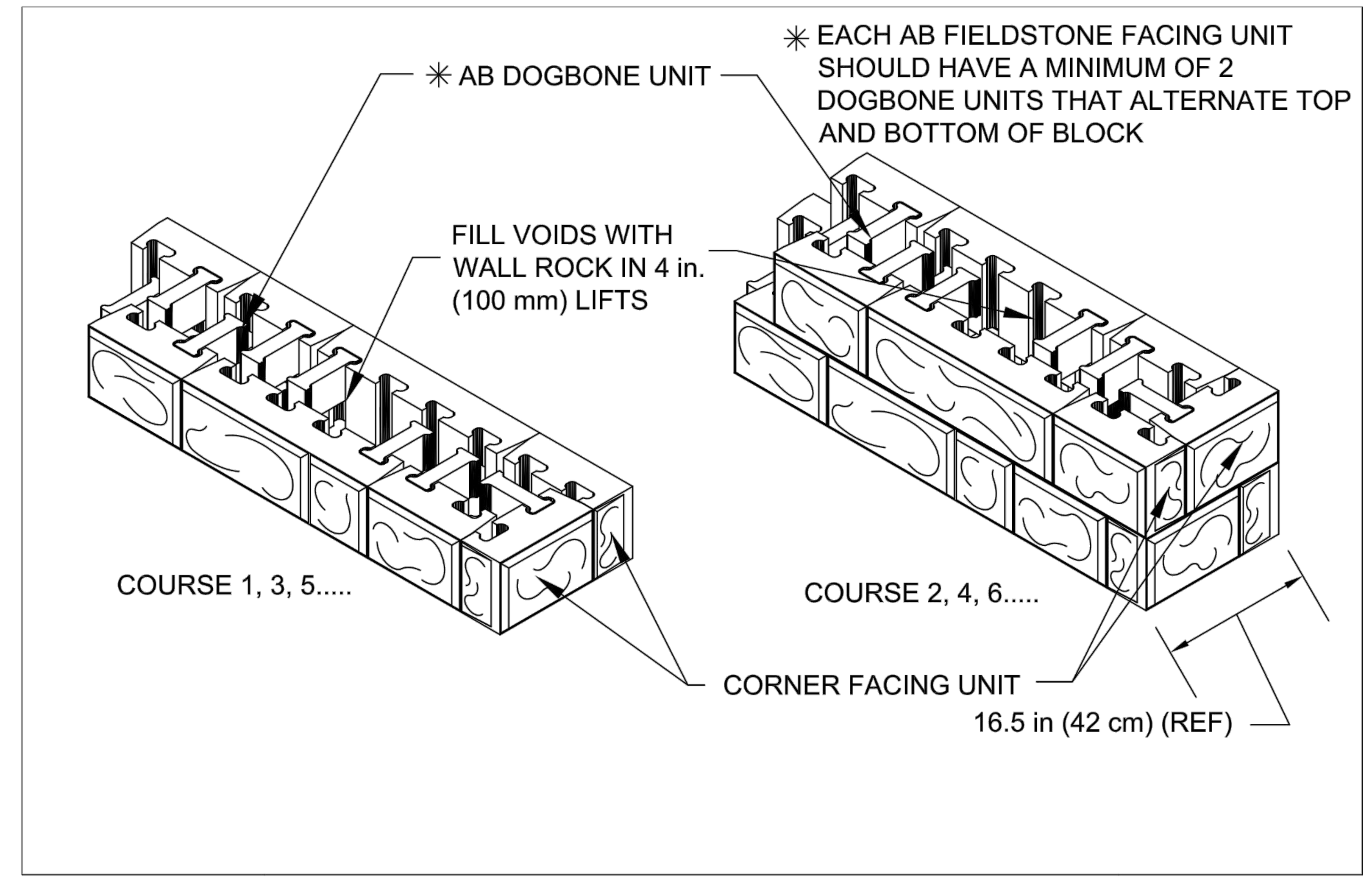




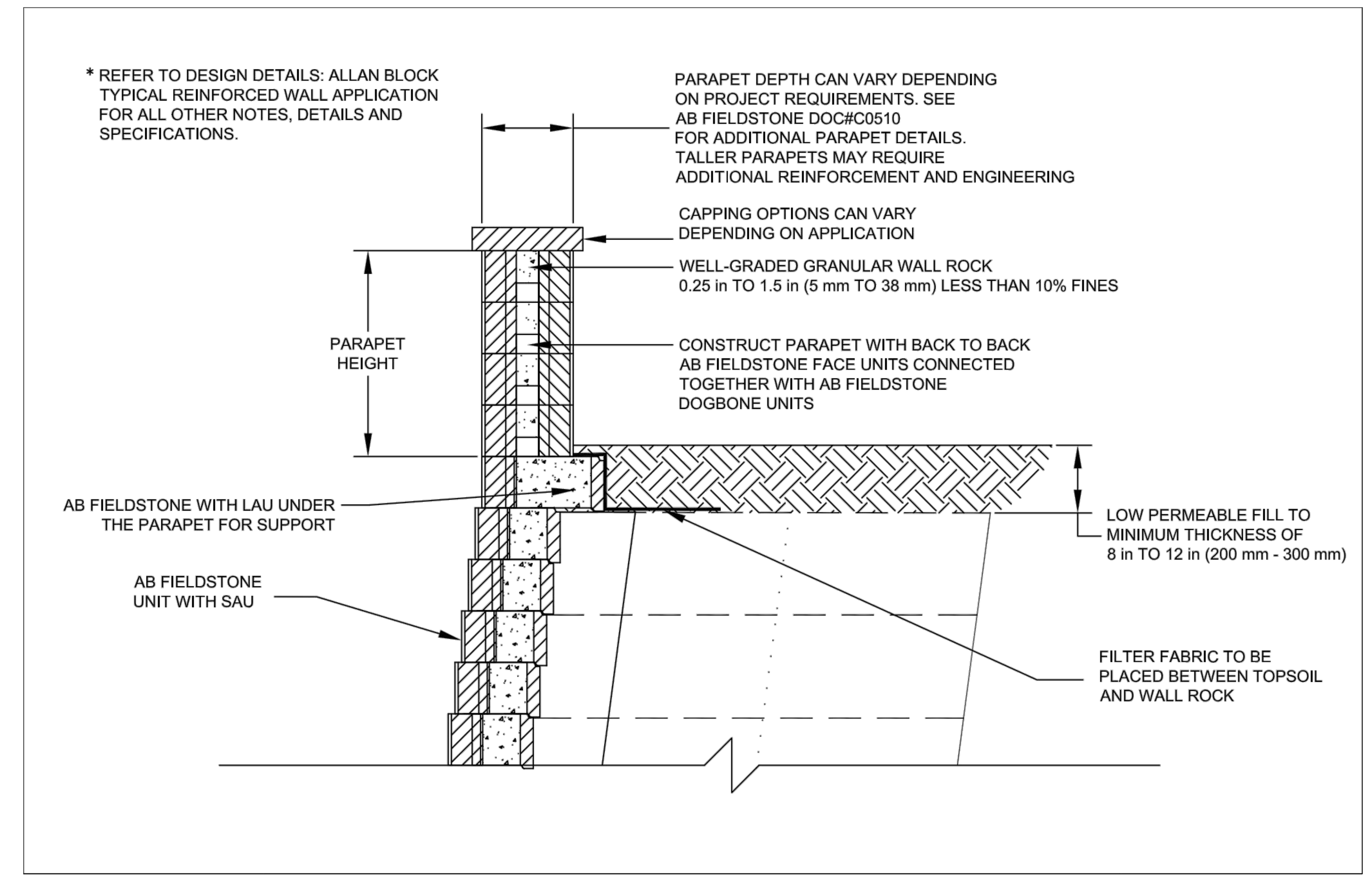
SOUTH RETAINING WALL BLOCK UNIT AND CAP SPACING



WEST RETAINING WALL BLOCK UNIT AND CAP SPACING



STRAIGHT PARAPETS - NO CUTTING NEEDED



AB FIELDSTONE PARAPET

PROPOSED LEGEND

- PROPERTY LINE
- SANITARY SEWER LATERAL WITH CLEANOUT (CO — PSL — PSL — PSL — PSL)
- STORM SEWER W/MANHOLE & END SECTION
- UNDERDRAIN
- ELECTRIC LINE (PE — PE — PE)
- WATER LINE (FIRE — FIRE)
- WATER SERVICE LINE (PWS — PWS — PWS — PWS — PWS)
- GAS LINE (PG — PG — PG)
- STORM MANHOLES
- STORM INLETS
- STORM CURB INLETS
- AQUA-SWIRL UNITS
- TAPPING SLEEVE
- TEE
- 45° BEND
- FIRE HYDRANT
- WATER VALVE
- STORTZ FDC
- WATER METER
- PIV
- ELECTRIC TRANSFORMER (E)
- DOWNSPOUT

EXISTING LEGEND

POWERPOLE		800	CONTOURS
POWERPOLE W/RISER			PROPERTY LINE
LIGHT POLE			PAVEMENT LINE
ELECTRIC METER			PRIVACY FENCE
TELEPHONE MANHOLE		G G G G	GAS LINE
WATER VALVE		W W	WATER LINE
WATER METER		CTV CTV CTV CTV	CABLE TV LINE
GAS VALVE		E E E E	ELECTRIC LINE
GAS METER		OHU OHU OHU	OVERHEAD UTILITY LINE
CLEANOUT			SANITARY SEWER W/MANHOLE
SIGN			STORM SEWER W/ INLET
TREE & BUSH			
TEMP. BENCHMARK			
REMOVAL/DEMOLISH	ASPHALT	GRAVEL	CONCRETE

20 0 20 40

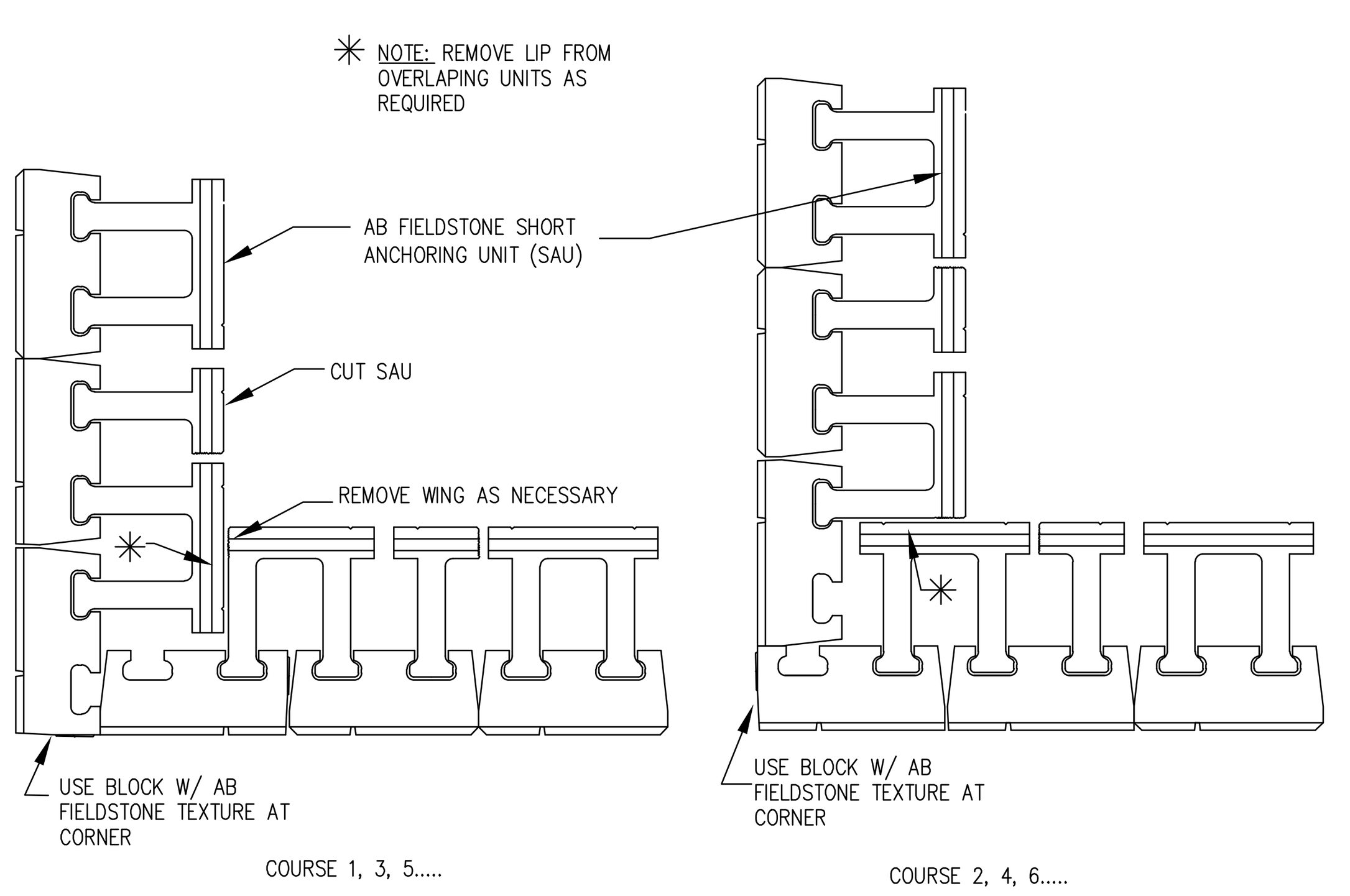
SCALE: 1" = 20'

RETAINING WALL LEGEND

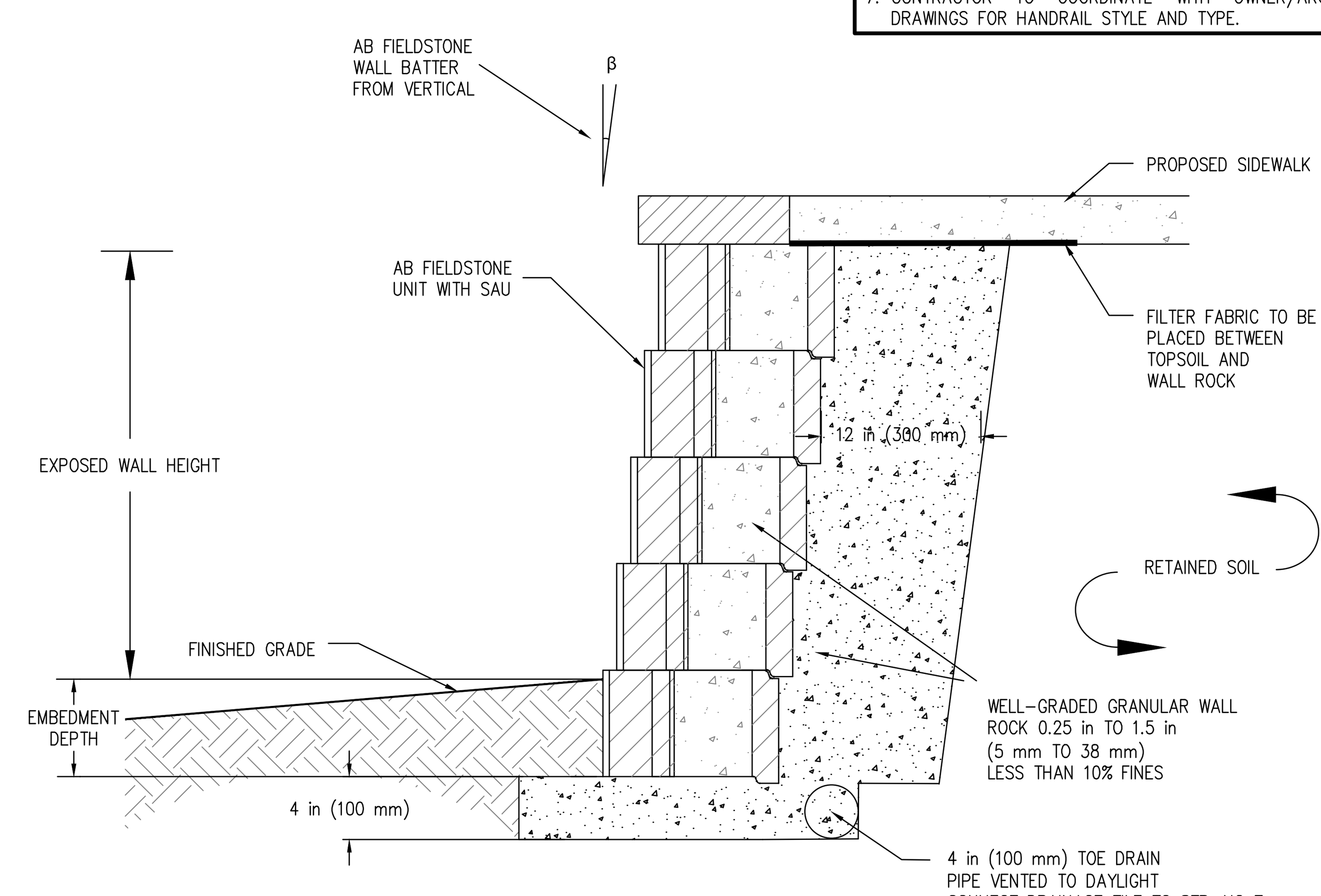
TOW	PROPOSED TOP OF RETAINING WALL ELEVATION
BOC	PROPOSED BOTTOM OF CAP ELEVATION
TLP	PROPOSED TOP OF LEVELING PAD ELEVATION
BLP	PROPOSED BOTTOM OF LEVELING PAD ELEVATION
800	EXISTING CONTOURS
800	PROPOSED CONTOURS

RETAINING WALL NOTES

1. BOTTOM OF WALL (B.O.W.) ELEVATIONS SHOWN ON THE GRADING PLANS CORRESPOND TO THE FINISHED GRADE AT THE BOTTOM FACE OF THE RETAINING WALLS.
2. CONTRACTOR SHALL COORDINATE WITH OWNER FOR SELECTION OF RETAINING WALL COLOR, TEXTURE AND FINISHES. THE RETAINING WALL DETAILS AND DESIGN SHOWN HEREON ARE BASED ON THE AB FIELDSTONE SHORT ANCHOR UNITS AS MANUFACTURED BY ALLAN BLOCK. FINAL DESIGN AND SHOP DRAWINGS MAY VARY IF A DIFFERENT BLOCK MANUFACTURER IS SELECTED.
3. CONTRACTOR SHALL COORDINATE WITH MANUFACTURER FOR ALL REQUIRED SPECIFICATIONS AND RECOMMENDATIONS PRIOR TO INSTALLING THE PROPOSED RETAINING WALLS. CERTIFIED SHOP DRAWINGS SHALL BE SUBMITTED TO CROSSROAD ENGINEERS FOR REVIEW AND APPROVAL.
4. BOTH SIZES OF AB FIELDSTONE FACING UNITS ("812" AND "824") REQUIRED FOR THIS SECTION OF WALL DUE TO FIXED LENGTH RELATIVE TO PROPOSED BUILDING AND SIDEWALK.
5. CONTRACTOR SHALL COORDINATE WITH THE BLOCK MANUFACTURER AND ARCHITECT FOR MATERIAL REQUIREMENTS (GROUT, EPOXY, ETC.) OF BLOCKS ADJACENT TO THE FACE OF BUILDING #6.
6. CONTRACTOR SHALL COORDINATE WITH THE MANUFACTURER FOR ALL REQUIRED SPECIFICATIONS AND RECOMMENDATIONS PRIOR TO CONSTRUCTION. CERTIFIED SHOP DRAWINGS SHALL BE SUBMITTED TO CROSSROAD ENGINEERS FOR REVIEW AND APPROVAL.
7. CONTRACTOR TO COORDINATE WITH OWNER/ARCHITECTURAL DRAWINGS FOR HANDRAIL STYLE AND TYPE.



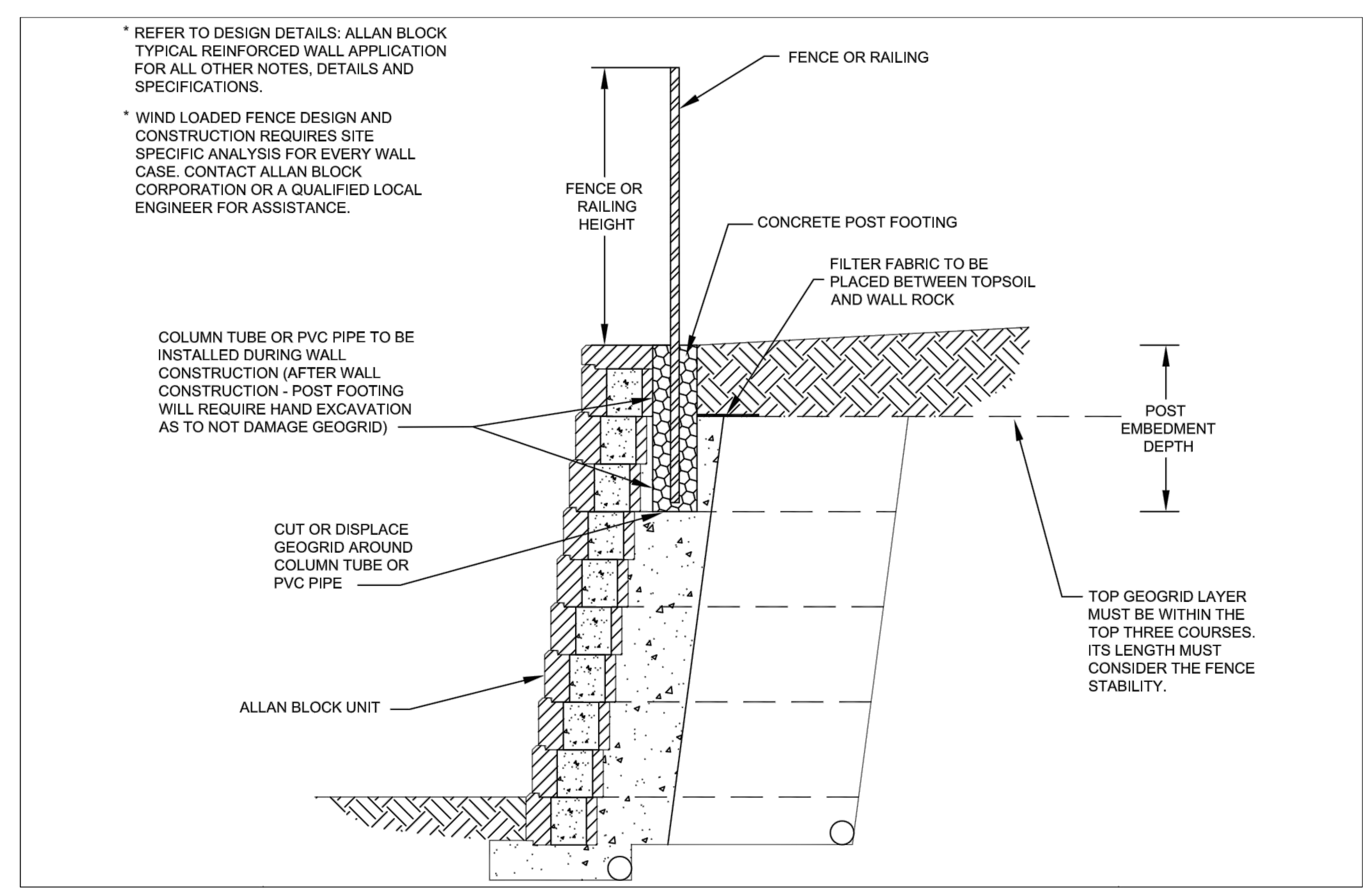
AB FIELDSTONE SAU - OUTSIDE CORNER ASSEMBLY



AB FIELDSTONE W/SHORT ANCHOR UNIT (SAU) - TYPICAL GRAVITY WALL

NOTE:
NO EARTHWORK DISTURBING ACTIVITY MAY COMMENCE UNTIL A STORM WATER MANAGEMENT PERMIT IS OBTAINED.

INDIANA 811 — Know what's below. Call before you dig



WIND FENCE WALL SECTION 1

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FILENAME : 700 RETAINING WALL PLAN AND PROFILE.dwg
DATE/USER : 4/8/2021 11:51 AM / RDigg

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TRANSPORTATION & DEVELOPMENT CONSULTANTS
3417 SHERMAN DRIVE
BEECH GROVE, IN 46107
(317) 780-1555
CROSSROADENGINEERS.COM

SHEET 700

RETAINING WALL PLAN AND PROFILE

WAYNE STREET TOWNHOMES

JOB No.	.	DRAWN	DEP/KLF	CHECKED	GJI
DATE	APRIL 8, 2021	DESIGNED	CDM	APPR.	GJI

GREGORY J. ILKO REGISTERED NO. 10300059 STATE OF INDIANA PROFESSIONAL ENGINEER

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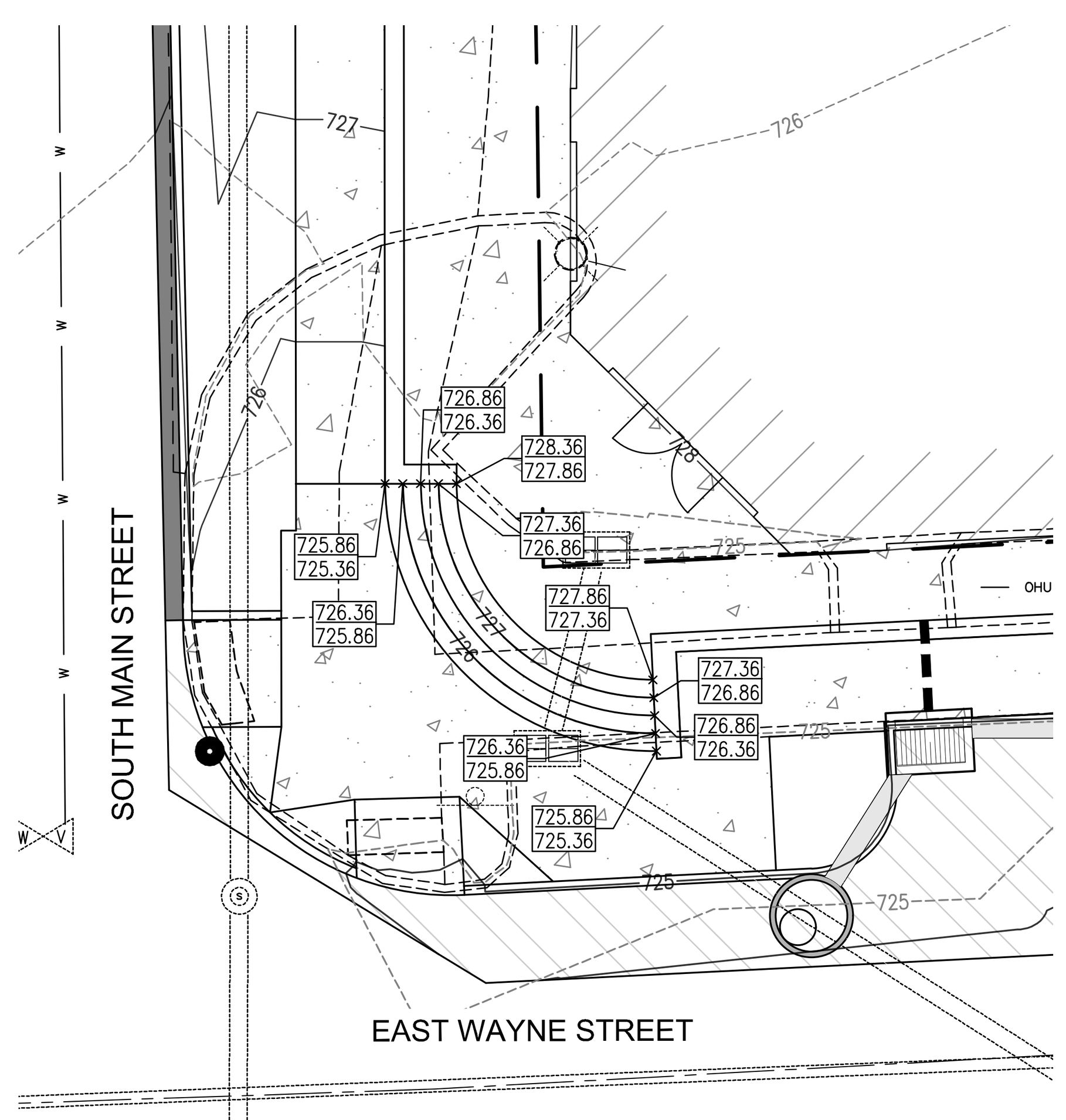
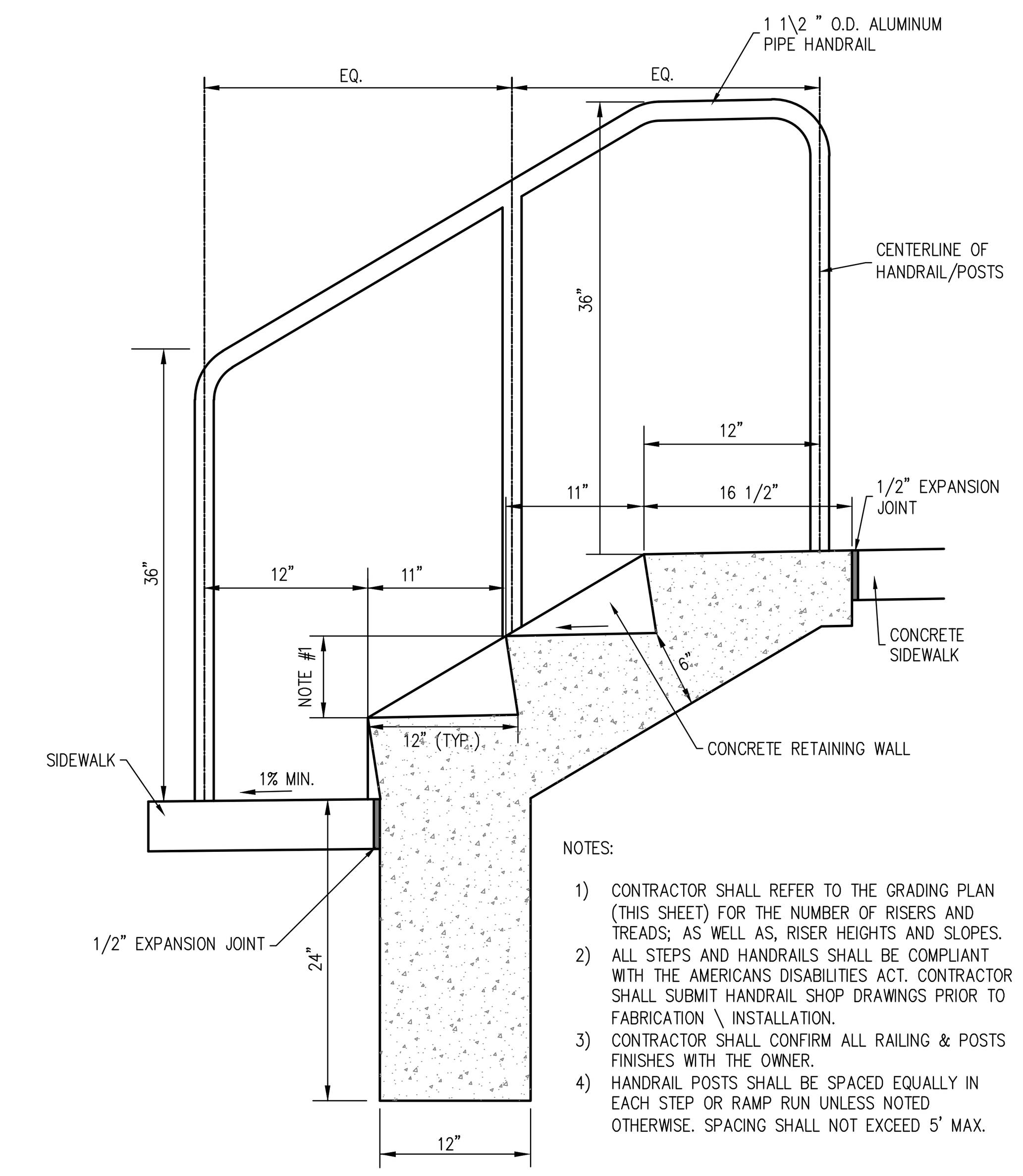
SHEET 700



STAIR DETAIL

SCALE 1"=10'

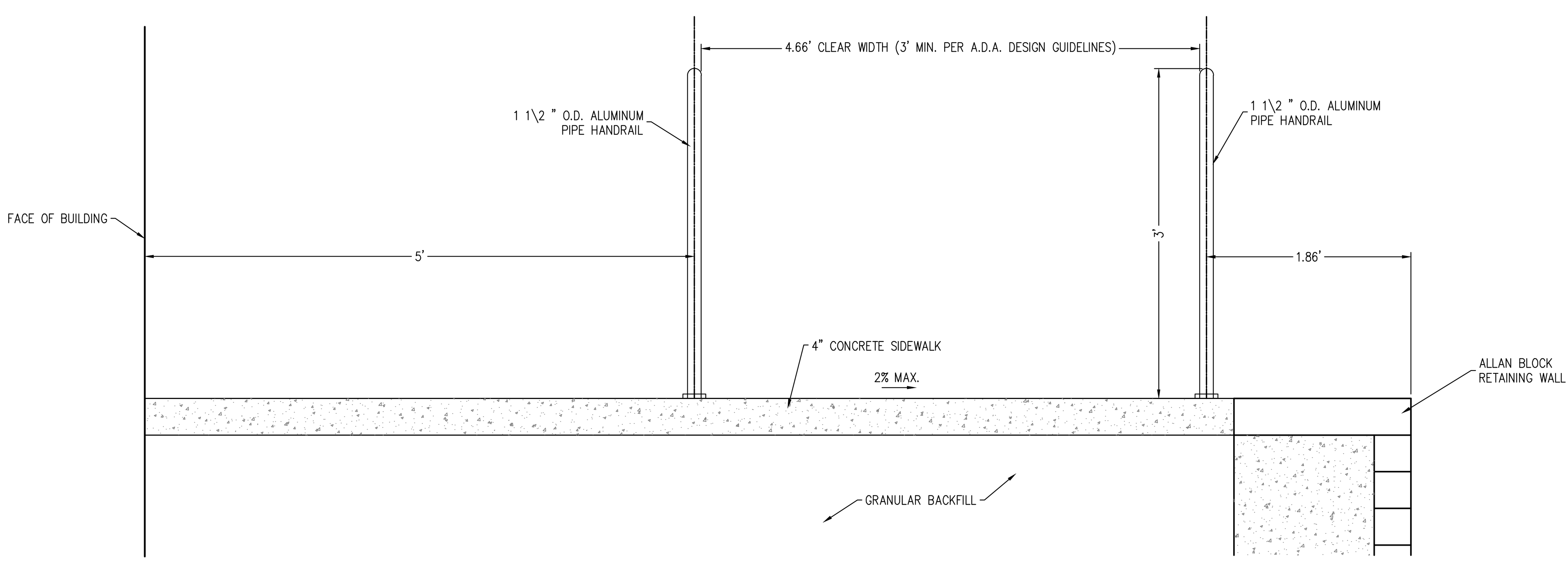


NOTES:

1) CONTRACTOR SHALL REFER TO THE GRADING PLAN (THIS SHEET) FOR THE NUMBER OF RISERS AND TREADS; AS WELL AS, RISER HEIGHTS AND SLOPES.
2) ALL STEPS AND HANDRAILS SHALL BE COMPLIANT WITH THE AMERICANS DISABILITIES ACT. CONTRACTOR SHALL SUBMIT HANDRAIL SHOP DRAWINGS PRIOR TO FABRICATION \ INSTALLATION.
3) CONTRACTOR SHALL CONFIRM ALL RAILING & POSTS FINISHES WITH THE OWNER.
4) HANDRAIL POSTS SHALL BE SPACED EQUALLY IN EACH STEP OR RAMP RUN UNLESS NOTED OTHERWISE. SPACING SHALL NOT EXCEED 5' MAX.

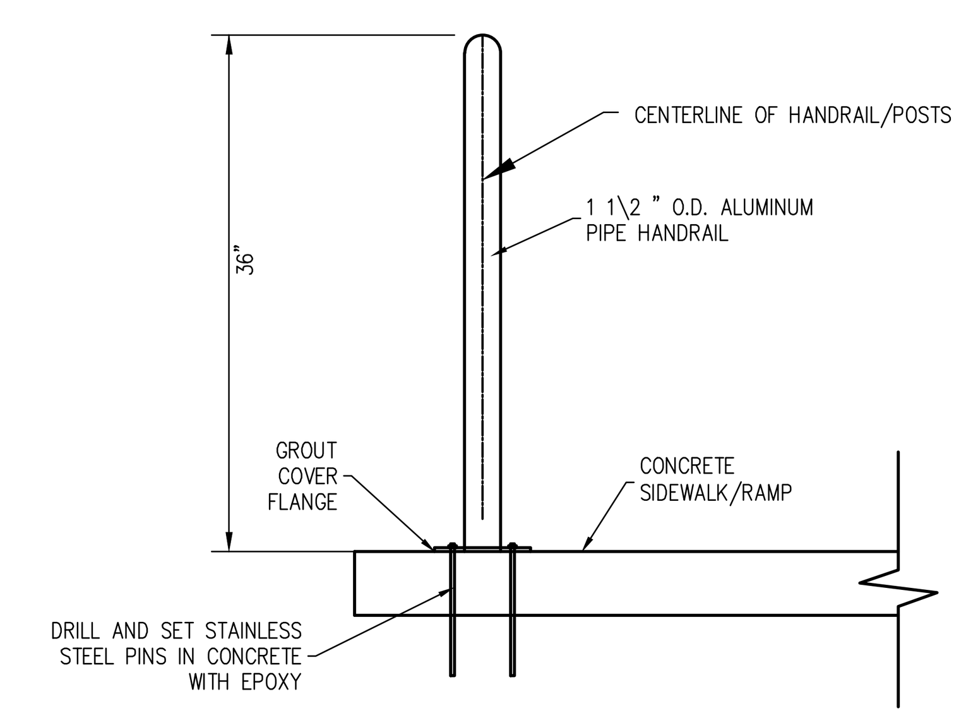
TYPICAL SECTION - CONCRETE STEPS

NOT TO SCALE



WAYNE ST. HANDRAIL & RAMP SECTION TO UPPER WALK

NOT TO SCALE

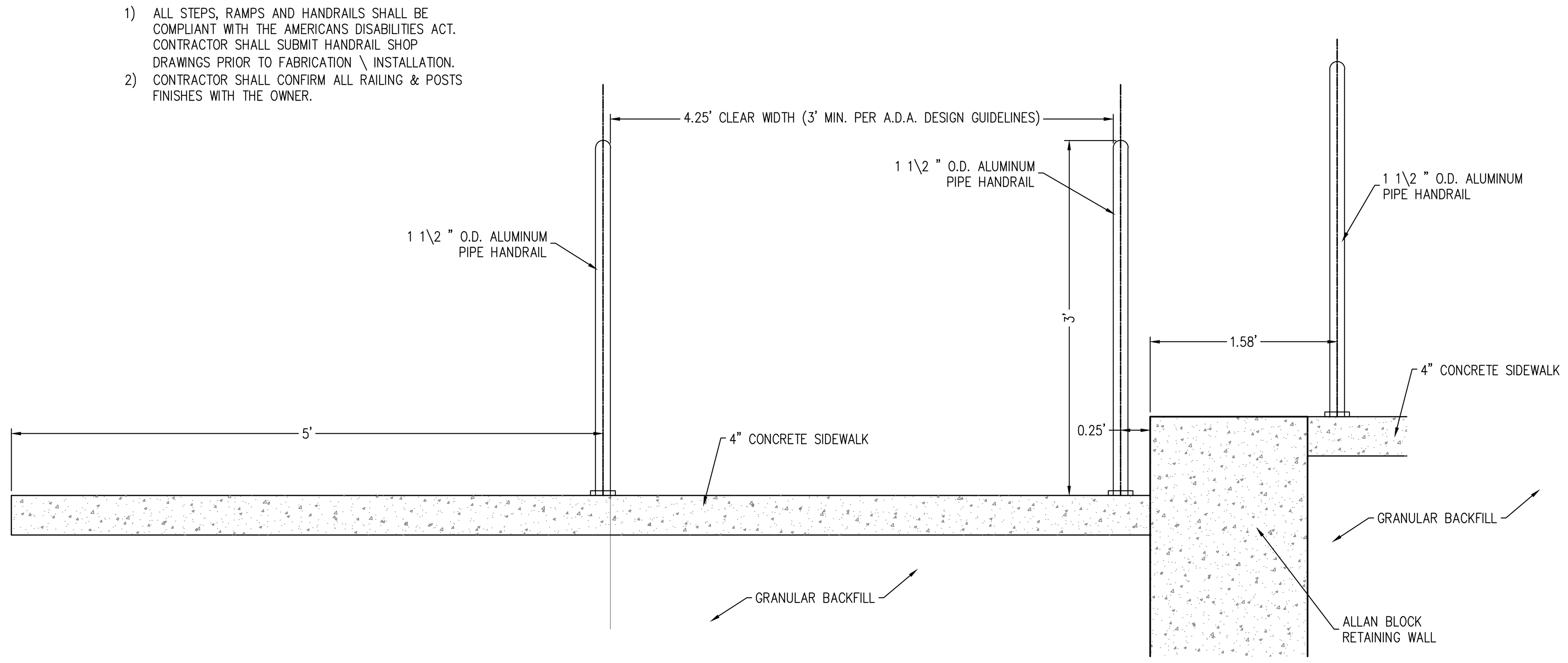


TYPICAL HANDRAIL SETTING DETAILS

NOT TO SCALE

NOTES:

1) ALL STEPS, RAMPS AND HANDRAILS SHALL BE COMPLIANT WITH THE AMERICANS DISABILITIES ACT. CONTRACTOR SHALL SUBMIT HANDRAIL SHOP DRAWINGS PRIOR TO FABRICATION \ INSTALLATION.
2) CONTRACTOR SHALL CONFIRM ALL RAILING & POSTS FINISHES WITH THE OWNER.



HANDRAIL & RAMP SECTION - BLDG. #1 & 2

NOT TO SCALE

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RAMP AND STEP DETAILS

WAYNE STREET TOWNHOMES

JOB No.	-	DRAWN	DEP/KLF	CHECKED	GJI
DATE	APRIL 8, 2021	DESIGNED	CDM	APPR.	GJI

SHEET 701

GREGORY J. ILKO REGISTERED NO. 10300059 STATE OF INDIANA PROFESSIONAL ENGINEER

REVISIONS

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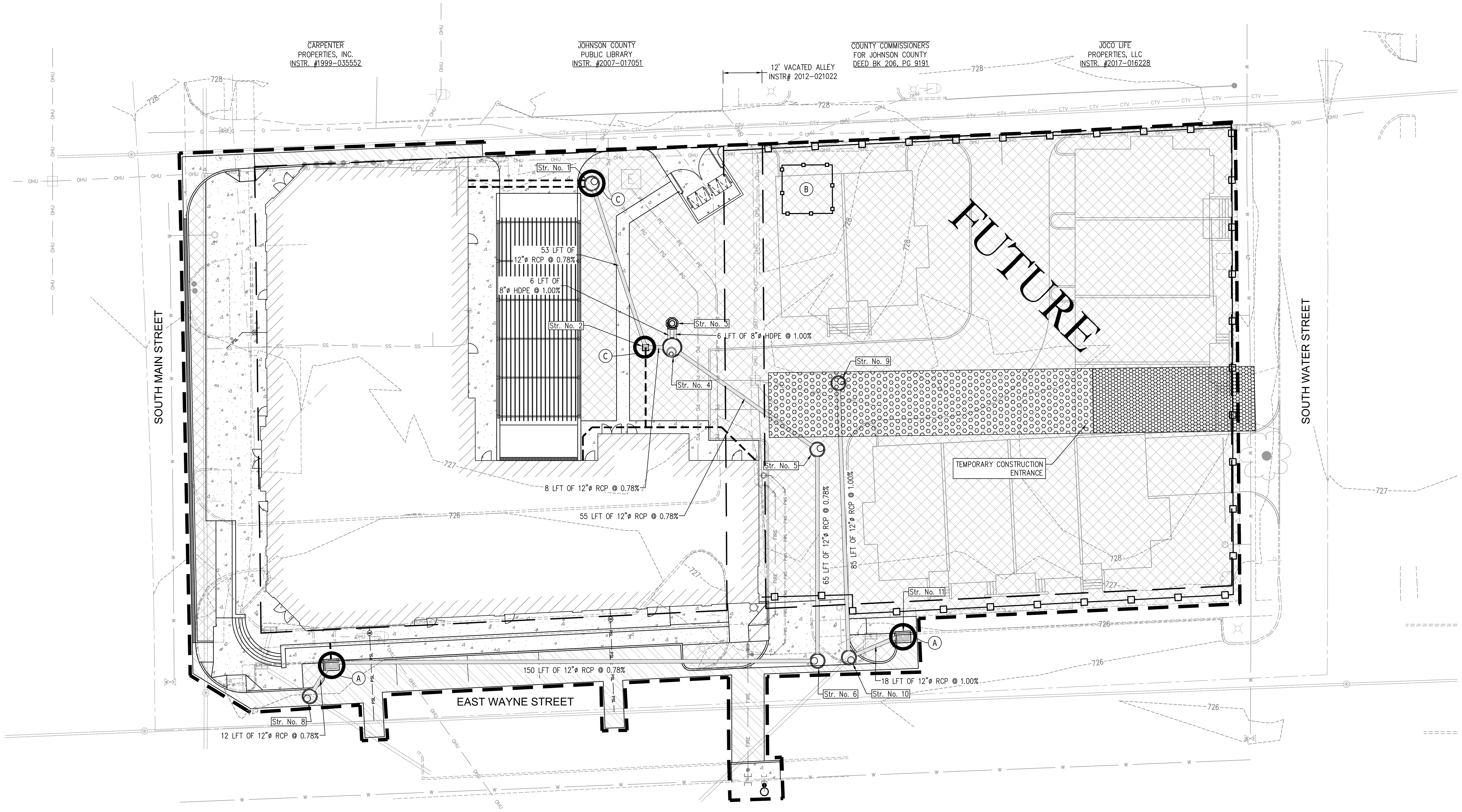
SHEET 701

ADDITIONAL EROSION CONTROL MEASURES MAY BE REQUIRED BY STATE, CITY OR COUNTY OFFICIALS

NOTE:
NO EARTHWORK DISTURBING ACTIVITY MAY COMMENCE UNTIL A STORM WATER MANAGEMENT PERMIT IS OBTAINED.

SCALE: 1" = 20'
EXISTING CONTOUR INTERVAL = 1'
PROPOSED CONTOUR INTERVAL = 1'

INDIANA 811 Know what's below. Call before you dig

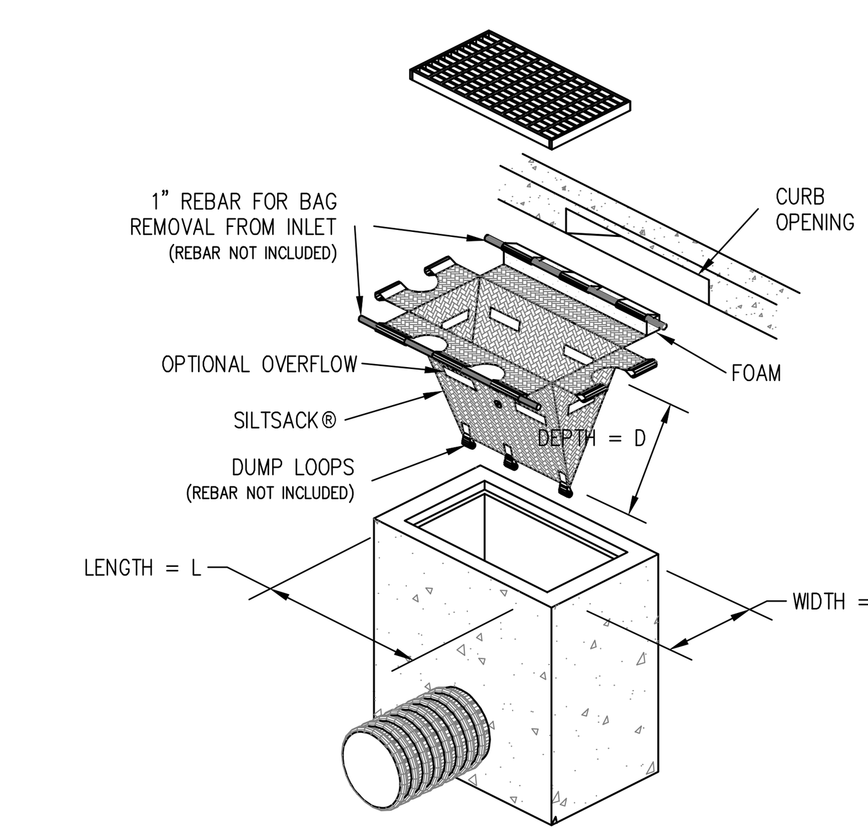


EROSION CONTROL LEGEND

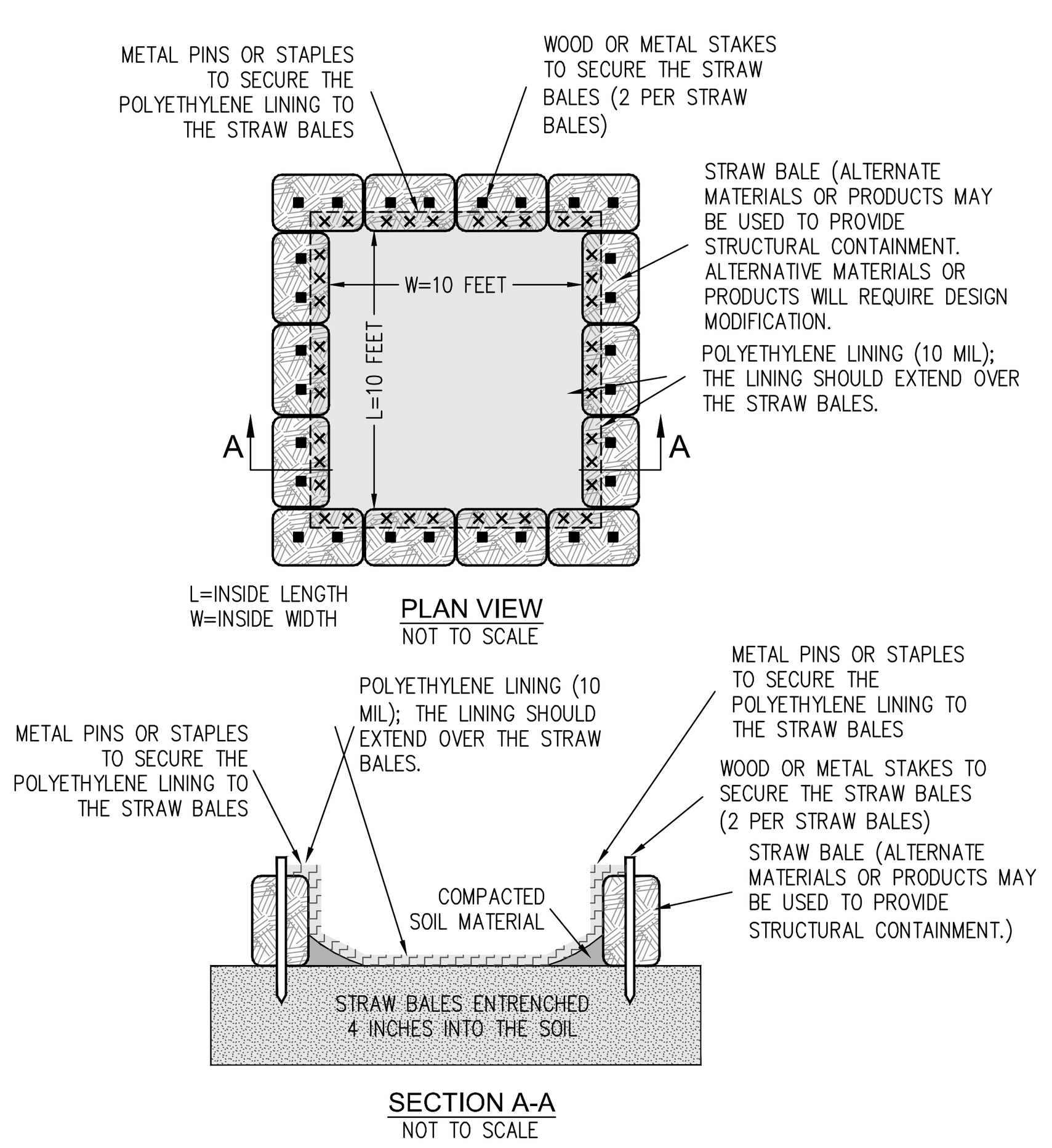
- MULCHED SEEDING
- CONSTRUCTION DRIVE (SEE DETAIL-THIS SHEET)
- 800 EXISTING CONTOURS
- 800 PROPOSED CONTOURS
- SILT FENCE SLOPE CHECK (NUTEC 3 NWS-6 OR APPROVED EQUAL)
- CONSTRUCTION LIMITS
- (A) SILT SACK INLET PROTECTION (SEE DETAIL-THIS SHEET)
- (B) CONCRETE WASHOUT AREA (SEE DETAIL-THIS SHEET)
- (C) FABRIC DROP INLET PROTECTION (SEE DETAIL-THIS SHEET)

EROSION CONTROL NOTES

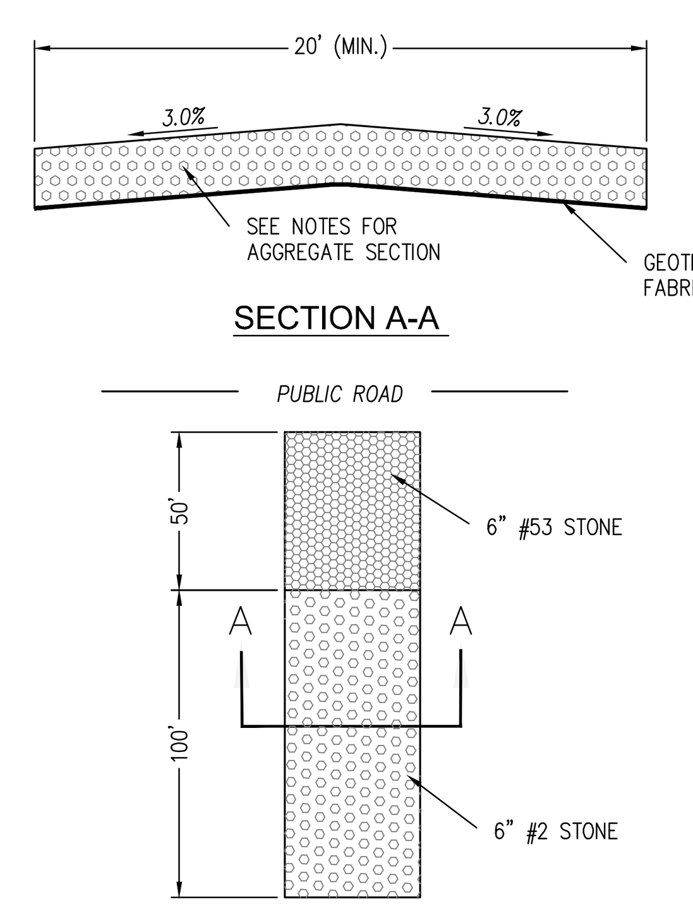
1. ADDITIONAL EROSION CONTROL MEASURES MAY BE REQUIRED BY STATE, COUNTY, OR LOCAL OFFICIALS.
2. ADDITIONAL EROSION CONTROL MEASURES MAY BE REQUIRED IN THE FIELD BY THE INSPECTOR.
3. CONSTRUCTION STAGING AREA (TO BE DETERMINED BY CONTRACTOR) SHALL INCLUDE THE NOI POSTING, PORT-O-LETS, TRASH CONTAINERS, AND FUELING TANKS.
4. A TRAINED INDIVIDUAL MUST PERFORM AN INSPECTION ONCE A WEEK AND AFTER EVERY ½" OR MORE RAIN EVENT. A LOG OF THE INSPECTION REPORTS MUST BE KEPT AND MADE AVAILABLE TO THE CITY INSPECTOR UPON REQUEST.
5. THERE SHALL BE NO DIRT, DEBRIS, OR STORAGE OF MATERIALS WITHIN THE EXISTING STREET OR RIGHT-OF-WAYS.
6. ALL EROSION CONTROL PRACTICES SHALL BE IN ACCORDANCE WITH THE INDIANA STORM WATER QUALITY MANUAL AND THE S.C.S. "FIELD OFFICE TECHNICAL GUIDE".
7. ALL STORM WATER CASTINGS SHALL BE PHASE II COMPLIANT.
8. CONTRACTOR SHALL UTILIZE 12 OZ/SQ. YD. MINIMUM WEIGHT, NON-WOVEN NEEDLE PUNCHED GEOTEXTILE FABRIC BENEATH ALL RIPRAP USED FOR OUTLET PROTECTION AND THE EMERGENCY SPILLWAY.



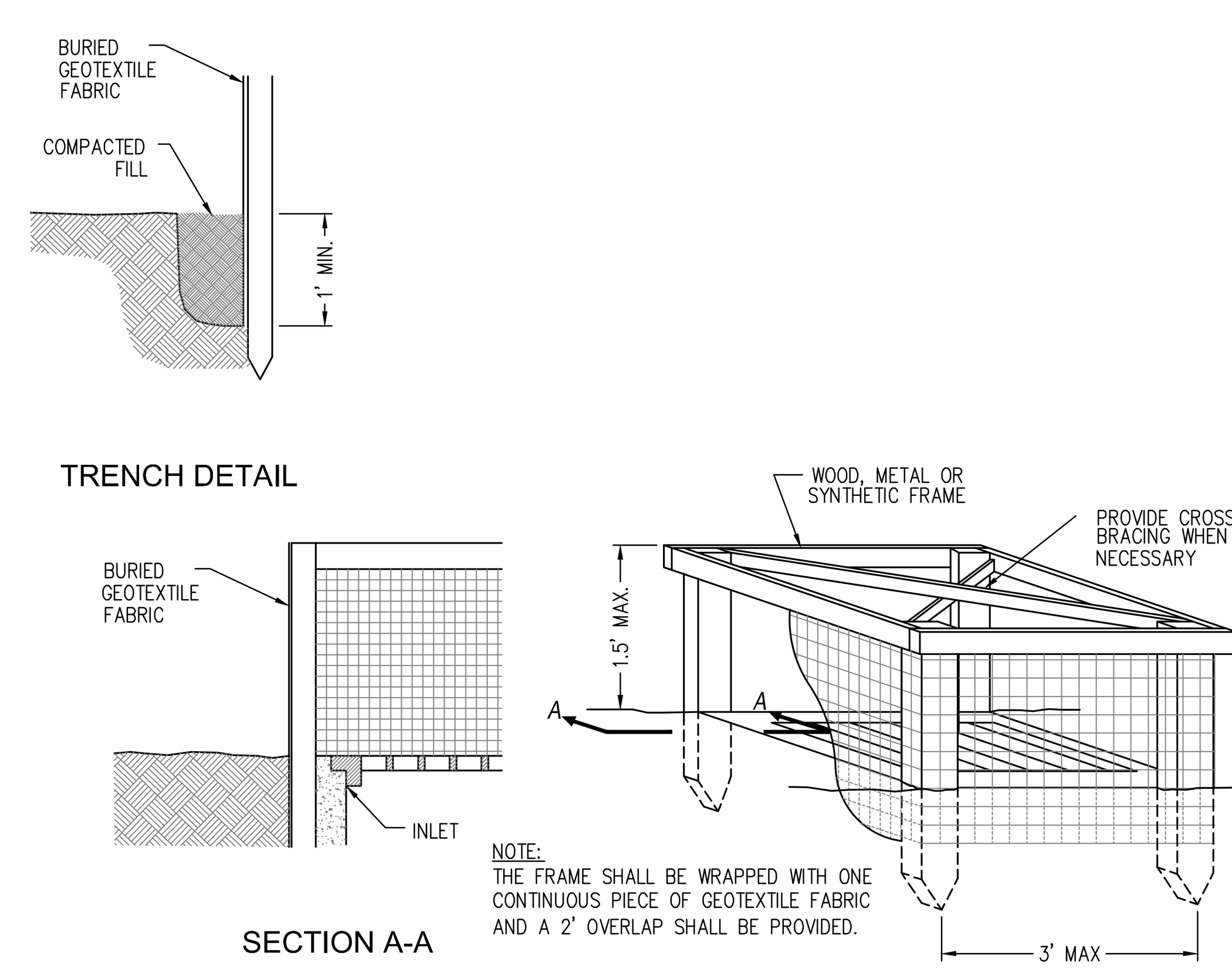
SILTSACK INLET FILTER DETAIL (A)
NOT TO SCALE



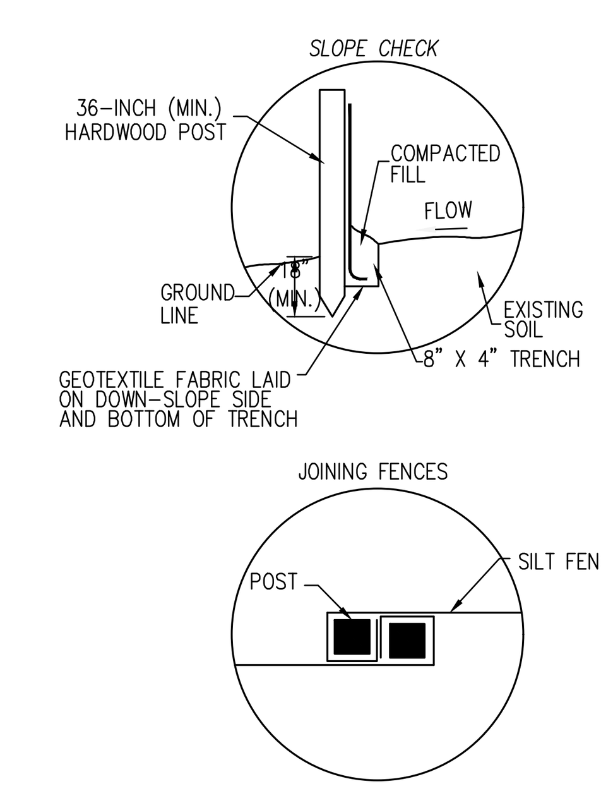
CONCRETE WASHOUT DETAIL (B)
NOT TO SCALE



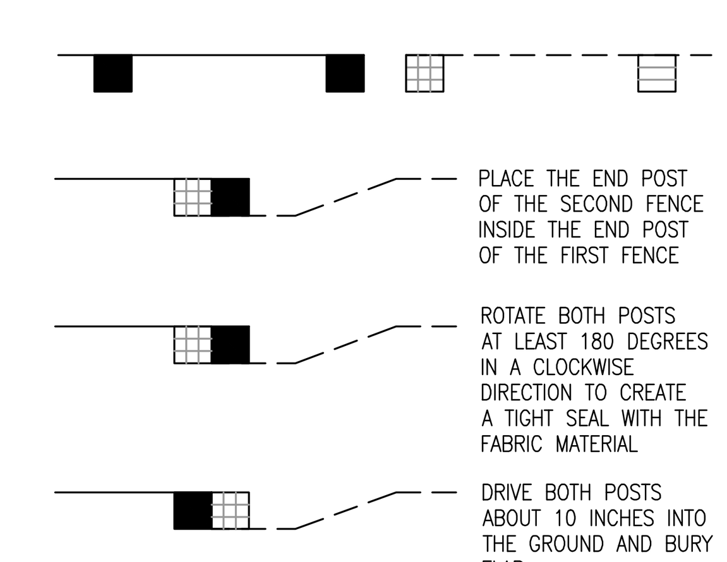
TEMPORARY CONSTRUCTION ENTRANCE DETAIL
NOT TO SCALE



FABRIC DROP INLET PROTECTION DETAIL (C)
NOT TO SCALE



SILT FENCE DETAIL
NOT TO SCALE



ATTACHING TWO SILT FENCES

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SHEET 800

EROSION CONTROL PLAN

WAYNE STREET TOWNHOMES

JOB No.	.	DRAWN	DEP/KLF	CHECKED	GJI
DATE	APRIL 8, 2021	DESIGNED	CDM	APPR.	GJI

GREGORY J. ILKO REGISTERED NO. 10300059 STATE OF INDIANA PROFESSIONAL ENGINEER

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SHEET 800

EROSION CONTROL PLAN INDEX

PLAN ELEMENTS

A1

RULE 5 EROSION CONTROL PLAN INDEX

ELEMENT	SHEET	ELEMENT	SHEET	ELEMENT	SHEET	ELEMENT	SHEET
A4	801	A19	800	B4	800 & 801	B12	800 & 801
A5	801	A21	800	B5	800 & 801	B13	801
A6	800	A22	800	B6	800 & 801	B14	801
A15	800	A23	800	B7	800 & 801		
A16	800	B2	801	B10	800 & 801		
A18	801	B3	801	B11	800 & 801		

A2 11 BY 17 INCH PLAT
The 11x17 inch Plat has been submitted to the respective Soils and Water Conservation District.

A3 PROJECT NARRATIVE
The project involves the construction of a mixed use building, parking areas, sidewalk, and utility infrastructure. The project is located at the northeast corner of Wayne Street and Main Street in Franklin, IN. Streets, curbs, parking and walks necessary for the development shall be constructed as part of the construction plans herein. A storm sewer system shall be utilized for stormwater collection. Drainage will discharge into an existing storm sewer located on Wayne Street. Water, sanitary, telephone, cable, gas, and electric utilities shall serve the property as well. Construction is anticipated to begin in the spring of 2021.

A4 VICINITY MAP
The Vicinity Map is located in the right half of the Erosion Control Details.
Latitude N 39°28'44" Longitude W 86°03'16"

A5 LEGAL DESCRIPTION
The Legal Description of the project site is located in the lower right quadrant of the Erosion Control Details.

A6 LOCATION OF ALL LOTS AND PROPOSED SITE IMPROVEMENTS
All pertinent lot information is included on the plan view of the Erosion Control Plan. Anticipated utilities, and structures are depicted as well.

A7 HYDROLOGIC UNIT CODE
The Hydrologic Unit Code for the represented watershed of this project is: 05120204090040

A8 STATE AND/OR FEDERAL WATER QUALITY PERMITS
No State of Federal water quality permits are required for this project.

A9 STORMWATER DISCHARGE
Stormwater discharge shall leave the site via storm sewer on Wayne Street.

A10 WETLANDS, LAKES AND WATER COURSES.
There are no potential wetland areas located within the project site, nor shall any potential wetland areas be disturbed as a result of construction.

A11 RECEIVING WATERS
The receiving water for this project is Youngs Creek.

A12 POTENTIAL DISCHARGES TO GROUND WATER
There are no potential locations where stormwater may enter the groundwater.

A13 100 YEAR FLOOD PLAINS, FLOODWAYS AND FLOODWAY FRINGES
BY GRAPHIC PLOTTING ONLY, THIS TRACT OF LAND DESCRIBED HEREON LIES WITHIN ZONE 'X' (AREAS OUTSIDE THE 500-YEAR FLOODPLAIN) AND IS NOT IN A SPECIAL FLOOD HAZARD AREA AS PLOTTED ON THE FEDERAL EMERGENCY MANAGEMENT AGENCY FLOOD INSURANCE RATE MAP FOR JOHNSON COUNTY, INDIANA, COMMUNITY PANEL NO. 18081C0231D, WHICH BEARS AN EFFECTIVE DATE OF 08/02/2007.

A14 POST-CONSTRUCTION PEAK DISCHARGE
Qpost Max. (10 year) = 5.26 cfs (outflow)

A15 ADJACENT LANDUSE
The adjacent landuses are:
Mixed Use Commercial/Residential – North, West, and South
Residential – East

A16 DISTURBED AREAS
The construction limits (boundary of disturbed area) are shown on the Erosion Control Plan. Total disturbed area is 1.22 acres.

A17 EXISTING VEGETATIVE COVER
The existing site is developed with mostly gravel and asphalt parking areas. Some grass lawn cover.

A18 SOILS MAP AND DESCRIPTIONS
The soils map and all pertinent soil type information are located on the upper right quadrant of the Erosion Control Details.

A19 PROPOSED STORMWATER SYSTEMS
The proposed stormwater system sizes and dimensions are labeled on the Erosion Control Plan.

A20 OFF-SITE CONSTRUCTION ACTIVITIES
No offsite activities will take place within this project.

A21 SOIL STOCKPILES, BORROW/DISPOSAL AREAS
Topsoil shall be stockpiled in a convenient location (as determined by the owner and/or contractor) within the construction site as shown on the Erosion Control Plan. The eastern portion of the site shall be used as borrow areas in the event additional soil is needed for grading.

A22 EXISTING SITE TOPOGRAPHY
Existing one-foot contours are shown on the Erosion Control Plan.

A23 PROPOSED SITE TOPOGRAPHY
Proposed one-foot contours are shown on the Erosion Control Plan.

STORMWATER POLLUTION PREVENTION - DURING CONSTRUCTION

B1 POTENTIAL POLLUTANT SOURCES ASSOCIATED WITH CONSTRUCTION ACTIVITIES
There is a potential for pollutants associated with construction machinery including diesel fuel, hydraulic fluid, engine oils and lubricants, antifreeze and other petroleum products. It is unavoidable for a small amount of these pollutants to contaminate soil in the grading and construction of the site. Sediment pollution from site disturbing activities shall be remedied by Erosion Control measures (see following sections).

B2 SEQUENCE OF STORMWATER QUALITY MEASURE IMPLEMENTATION
The Construction Sequence & Schedule of Erosion Control Measure Implementation is located in the upper half on the Erosion Control Details.

B3 CONSTRUCTION ENTRANCE
The construction entrance shall be constructed at the east section of the project off of Water Street. Specifications and details are located on the Erosion Control Details.

B4 SEDIMENT CONTROL MEASURES FOR SHEET FLOW AREAS
Sediment Control measures for Sheet flow areas are shown on the Erosion Control Plan. Specifications and details are located on the Erosion Control Details.

B5 SEDIMENT CONTROL MEASURES FOR CONCENTRATED FLOW AREAS
Sediment Control measures for concentrated flow areas are shown on the Erosion Control Plan. Specifications and details are located on the Erosion Control Details.

B6 STORM SEWER INLET PROTECTION MEASURES
Storm sewer inlet protection measures are shown on the Erosion Control Plan. Specifications and details are located on the Erosion Control Details.

B7 RUNOFF CONTROL MEASURES
Runoff control measures are shown on the Erosion Control Plan. Specifications and details are located on the Erosion Control Details.

B8 STORMWATER OUTLET PROTECTION MEASURES
Stormwater outlet protection measures are shown on the Erosion Control Plan. Specifications and details are located on the Erosion Control Details.

B9 GRADE STABILIZATION STRUCTURES
No grade stabilization structures are required for this project.

B10 LOCATION, DIMENSIONS, SPECIFICATIONS AND DETAILS OF EACH STORMWATER QUALITY MEASURE
Each stormwater quality measure is shown on the Erosion Control Plan and associated details/specifications are shown on the Erosion Control Details.

B11 TEMPORARY SURFACE STABILIZATION
Temporary surface stabilization methods are shown on the Erosion Control Plan and detailed on the Erosion Control Details.

B12 PERMANENT SURFACE STABILIZATION
Permanent surface stabilization methods are shown on the Erosion Control Plan and detailed on the Erosion Control Details.

B13 MATERIAL HANDLING AND SPILL PREVENTION
Spill prevention shall be accomplished by utilizing spillguards for equipment fueling and servicing operations. Spillguards shall be 3'x3'x6" and shall be constructed of a material resistant petroleum products (including diesel fuel and oil). On-site fuel storage tanks shall have emergency storage capacity directly below the tank in case of rupture. Any hazardous material spillage shall be collected and/or cleaned immediately by a trained individual and disposed of in accordance with all federal, state and local regulations.
Indiana Department of Environmental Management
Office of Emergency Response (317) 233-7745, Toll Free (800) 233-7745
Additional Material Handling and Spill Prevention (this sheet)

B14 MONITORING AND MAINTENANCE GUIDELINES
Monitoring and Maintenance Guidelines are located in the middle on the Erosion Control Details.

B15 EROSION & SEDIMENT CONTROL MEASURES FOR INDIVIDUAL BUILDING LOTS
Not applicable.

STORMWATER POLLUTION PREVENTION - POST CONSTRUCTION

C1 PROPOSED POLLUTANTS AND SOURCES ASSOCIATED WITH PROPOSED LAND USE
Potential pollutants include petroleum products and antifreeze from automobiles using the parking areas and sediment.

C2 STORMWATER QUALITY MEASURE IMPLEMENTATION
Stormwater quality measures are implemented by construction of the site improvements.

C3 PROPOSED POST CONSTRUCTION STORMWATER QUALITY MEASURES
Post construction stormwater quality measures shall consist of a mechanical filter unit for water quality purposes.

C4 LOCATION, DIMENSIONS, SPECIFICATIONS AND DETAILS OF EACH STORMWATER QUALITY MEASURE
The location of the water quality measure is within the grass area on the north side of the proposed building as detailed in the construction plans.

C5 MAINTENANCE GUIDELINES OF POST CONSTRUCTION STORMWATER QUALITY MEASURES
The proposed Aquaswirl shall be inspected quarterly for any plugging of the pipes. The diversion structure shall be cleared of any obstructions.

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MONITORING AND MAINTENANCE GUIDELINES

GRAVEL CONSTRUCTION DRIVE AND PARKING AREA:

A. Inspect weekly and after each storm event and log condition per IDEM.

TOPSOIL:

A. Inspect weekly until vegetation is established and log condition per IDEM.

TEMPORARY AND PERMANENT SEEDING:

A. Inspect periodically, especially after storm events, until the stand is successfully established.
B. Plan to add fertilizer the following growing season according to soil test recommendations.
C. Repair damaged, bare, or sparse areas by filling any gullies, re-fertilizing, over- or re-seeding, and mulching.
D. If plant cover is sparse or patchy, review the plant materials chosen, soil fertility, moisture condition, and mulching; repair the affected area either by over-seeding or by re-seeding and mulching after re-preparing the seed bed.
E. If vegetation fails to grow, consider soil testing to determine acidity or nutrient deficiency problems.
F. If additional fertilization is needed to get a satisfactory stand, do so according to soil test recommendations.
G. Reference the latest INDOT Specification.

MULCHING:

A. Inspect after storm events to check for movement of mulch or for erosion.
B. If washout, breakage, or erosion is present, repair the surface, then re-seed, re-mulch, and , if applicable, install new netting.
C. Continue inspections until vegetation is firmly established.
D. Reference the latest INDOT Specification.

EROSION CONTROL BLANKET:

A. During vegetative establishment, inspect after storm events for any erosion below the blanket.
B. If any area shows erosion, pull back that portion of the blanket covering it, add soil, re-seed the area, and re-lay and staple the blanket.
C. After vegetative establishment, check the treated area periodically.

SILT FENCE:

A. Inspect the silt fence periodically and after each storm event.
B. If fence fabric tears, starts to decompose, or in any way becomes ineffective, replace the affected portion immediately.
C. Remove deposited sediment when it reaches half the height of the fence at its lowest point or is causing the fabric to bulge.
D. Take care to avoid undermining the fence during clean out.
E. After the contributing drainage area has been stabilized, remove the fence and sediment deposits, bring the disturbed area to grade and stabilize.

SAND BAG INLET PROTECTION:

A. Inspect the sandbag inlet protection periodically and after each storm event.
B. Remove deposited sediment when it reaches half the height of the sandbags at the lowest point.
C. Remove the sandbag inlet protection and sediment deposits after contributing drainage area is stabilized.

RIPRAP:

A. Inspect periodically for displaced rock material, slumping, and erosion at edges, especially downstream or downslope.

FABRIC DROP INLET PROTECTION:

A. Inspect the fabric barrier after storm events, and make needed repairs immediately.
B. Remove sediment from the pool area to provide storage for the next storm. Avoid damaging or undercutting the fabric during sediment removal.
C. When the contributing drainage area has been stabilized, remove and properly dispose of all construction material and sediment, grade the area to the elevation of the top of the inlet, then stabilize.

SAND BAG INLET PROTECTION:

A. Inspect the sand bag inlet protection periodically and after each ½" storm event.
B. Remove deposited sediment when it reaches half the height of the filter at the lowest point.
C. Remove the Sand Bag Inlet Protection and sediment deposits after contributing drainage area is stabilized.

SILT SACK INLET PROTECTION:

A. Inspect the silt sack inlet protection periodically and after each ½" storm event.
B. Remove deposited sediment when it reaches half the height of the filter at the lowest point.
C. Remove the Silt Sack Inlet Protection and sediment deposits after contributing drainage area is stabilized.

CONSTRUCTION SEQUENCE & SCHEDULE OF EROSION CONTROL IMPLEMENTATION

1. Silt fence and/or straw bales shall be placed around existing structures and in ditches as shown in these plans before any land disturbing activities are started.
2. Schedule a pre-construction meeting with Johnson County SWCD 48 hours prior to start of earthwork.
3. Construct temporary gravel entrance in accordance with the "INDIANA STORM WATER QUALITY MANUAL". All other erosion control measures and detention areas shall be installed and constructed as shown at the beginning of the project.
4. Strip topsoil and stockpile as shown.
5. Rough grade site. Disturbed areas should be seeded immediately following rough grading. Areas that will not be disturbed again should be permanently seeded. No unvegetated areas should be exposed for more than seven days.
6. Place drainage structures. Erosion control measures shall be placed around proposed structures as soon as they are in place and until vegetation is secure.
7. Final grade site. All erosion control blankets shall be installed per manufacturers recommendations as soon as final grading is complete.
8. Final paving operations. Temporary erosion control measures shall remain in place until vegetation is secure.

GENERAL EROSION CONTROL REQUIREMENTS FOR COMPLIANCE WITH IDEM GENERAL PERMIT RULES FOR STORM WATER RUNOFF FROM CONSTRUCTION SITES

1. All Erosion Control practices shall be in accordance with the latest edition of the INDIANA STORM WATER QUALITY MANUAL.
2. The Erosion Control measures included in this plan shall be installed prior to initial land disturbance activities or as soon as practical. Sediment shall be prevented from discharging from the project site by installing and maintaining silt fence, straw bales, sediment basins, etc. As shown on this plan. If shown on this plan, energy-dissipation devices or Erosion Control at the outfall of the storm sewer system shall be installed at the time of the construction of the outfall.
3. All on-site storm drain inlets shall be protected against sedimentation with silt sack inlet filters, filter fabric, or equivalent barriers as shown on this plan.
4. Except as prevented by inclement weather conditions or other circumstances beyond the control of the contractor/developer appropriate Erosion Control practices will be initiated within (7) seven days of the last land disturbing activity at the site. The site shall be stabilized by seeding, sodding, mulching, covering, or by other equivalent Erosion Control measures.
5. This Erosion Control plan shall be implemented on all disturbed areas within the construction site. All measures involving Erosion Control practices shall be installed under the guidance of a qualified person experienced in Erosion Control and following the plans and specifications included herein.
6. During the period of construction activity, all sediment basins and other Erosion Control measures shall be maintained by the contractor. At the completion of construction, the contractor shall coordinate the transfer of required maintenance responsibilities with the owner.
7. Public or private roadways shall be kept cleared of accumulated sediment. Bulk clearing of accumulated sediment shall not include flushing the area with water. Cleared sediment shall be returned to the point of likely origin or other suitable location.
8. The contractor shall control wastes, garbage, debris, wastewater, and other substances on the site in such a way that they shall not be transported from the site by the action of winds, storm water runoff, or other forces. Proper disposal or management of all wastes and unused building materials appropriate to the nature of the waste or material is required.
9. Additional Erosion Control measures may be required by state or county agencies.

ADDITIONAL MATERIAL HANDLING AND SPILL PREVENTION PLAN

A. PURPOSE

The purpose of this plan is two fold:
1. To help protect the health and safety of those working on the site as well as the environment.
2. Preventing the contamination of storm water runoff. Pollutants generated onsite may include gasoline, diesel fuel, oils, grease, paints, pesticides, nutrients, concrete washout, soil, solvents, paper, plastic, Styrofoam, metals, glass and other forms of liquid or solid wastes.

This plan outlines procedures to help prevent health and safety issues, contamination of storm water by onsite pollutants, help prevent fuel and chemical spills and provide a response procedure should a spill occur.

B. PREVENTION AND READINESS

1. The contractor or responsible party will prepare a contact list in the event of a spill on the site. The contact list will have names and contact numbers. The contact list will specify first responders and a chain of command. Include information on what circumstances require the initiation of the contact list and chain of command.
2. The contractor/owner shall maintain a list of qualified contractors, Vac-trucks, tank pumpers and other equipment or businesses qualified to do clean-up operations. Absorbent materials and supplies need to be available onsite in sufficient quantities to address minor spills. All employees need to be educated on the proper application of the absorbent materials.
3. All maintenance and equipment operators must be aware and trained for prevention of spills. A continuing education program is required for new employees and emphasizing the importance to all employees.
4. All materials used in the course of a cleanup will be disposed in a manor approved by Indiana Department of Environmental Management.
5. Using water to flush spilled material will not be permitted unless authorized by a state, federal, or local agency. Tarps can be used to cover spilled material during rain events.

C. SPILL RESPONSE

Minor – Small spills that typically involve oil gasoline, paint, hydraulic fluid etc. Minor spills can be controlled by the first responder at the discovery of the spill.
- Contain spill to prevent material from entering storm or ground water. Do not flush with water or bury.
- Use absorbent material to clean-up spill material and any subsequently contaminated soil and dispose of properly.

Semi-significant Spills – Approximately ten gallons or less of pollutant with no contamination of ground or surface waters. Minor spills can be generally controlled by the first responder with help from other site personnel. This response may require other operations to stop to make sure the spill is quickly and safely addressed. At the discovery of the spill:
- Contain spill to prevent material from entering storm or ground water. Do not flush with water or bury.
- Use absorbent material to clean-up spills and dispose of properly. Spills on impervious surfaces should be contained with a dry absorbent. Spills on clayey soils should be contained by constructing an earthen dike and should be disposed of as soon as possible to prevent migration deeper into the soil and groundwater. Dispose of contaminated soils or absorbents properly.
- Contact 911 if this spill could be a safety issue.
- Contact supervisors and designated inspectors immediately
- Contaminated solids to be removed to an approved landfill.

Major or Hazardous Spills – More than ten gallons, there is the potential for death, injury or illness to humans or animals or has the potential for surface or groundwater pollution.
- Control or contain the spill without risking bodily harm. Temporarily plug storm drains if possible to prevent migration of the spill into the stormwater system.
- Immediately contact the local Fire Department at 911 to report any hazard material spill.
- Contact supervisors and designated inspectors immediately. Other county or municipal officials (list as needed) responsible for storm water facilities should be contacted as well. The contractor is responsible for having these contact numbers available at the job site. A written report should be submitted to the owner as soon as possible.
- As soon as possible but within 2 hours of discovery, contact the Department of Environmental Management,
  Office of Emergency Response 1-888-233-7745. The following information should be noted for future
  reports to IDEM or the National Response Center.
  - o Name, address and phone number of person making the spill report
  - o The location of the spill
  - o The time of the spill
  - o Identification of the spilled substance
  - o Approximate quantity of the substance that has been spilled or may be further spilled
  - o The duration and source of the spill
  - o Name and location of the damaged waters
  - o Name of spill response organization
  - o What measures were taken in the spill response
  - o Other information that may be significant

Additional regulation or requirements may be present. A spill response professional should be consulted to make sure all appropriate and required steps have been taken. Contaminated solids should only be removed from the site after approval is given by Emergency Response.

D. THE FOLLOWING PROCEDURES AND PRACTICES WILL HELP PREVENT UNNECESSARY SPILLS

I. Vehicle and Equipment Fueling

Description and Purpose:
- Vehicle equipment fueling procedures and practices are designed to prevent fuel spills and leaks, and reduce or eliminate contamination of stormwater. This can be accomplished by using offsite facilities, fueling in designated areas only, enclosing or covering stored fuel, implementing spill controls, and training employees and subcontractors in proper fueling procedures.

Limitations:
- Onsite vehicle and equipment fueling should only be used where it is impractical to send vehicles and equipment offsite for fueling.

Implementation:
- Use offsite fueling stations as much as possible. These businesses are better equipped to handle fuel and spills properly. Performing this work offsite can also be economical by eliminating the need for a separate fueling area at a site.
- Discourage "topping-off" of fuel tanks.
- Absorbent spill cleanup materials and spill kits should be available in fueling areas and on fueling trucks, and should be disposed of properly after use.
- Drip pans or absorbent pads should be used during vehicle and equipment fueling, unless the fueling is performed over an impermeable surface in a dedicated fueling area.
- Use absorbent materials on small spills. Do not hose down or bury the spill. Remove the absorbent materials promptly and dispose of properly.
- Avoid mobile fueling of mobile construction equipment around the site; rather, transport the equipment to designated fueling areas.
- Train employees and subcontractors in proper fueling and cleanup procedures.
- Dedicated fueling areas should be protected from stormwater run-on and runoff, and should be located at least 50 feet away from the downstream drainage facilities and watercourses. Fueling must be performed on level-grade areas.
- Protect fueling areas with berms and dikes to prevent run-on, runoff, and to contain spills.
- Nozzles used in vehicle and equipment fueling should be equipped with an automatic shutoff to control drips. Fueling operations should not be left unattended.
- Federal, state, and local requirements should be observed for any stationary above ground storage tanks.

Inspection and Maintenance
- Vehicles and equipment should be inspected each day of use for leaks. Leaks should be repaired immediately or problem vehicles or equipment should be removed from the project site.
- Keep ample supplies of spill cleanup materials onsite.
- Immediately clean up spills and properly dispose of contaminated soils.

II. Solid Waste Management

Description of Purpose:
- Solid waste management procedures and practices are designed to prevent or reduce the discharge of pollutants to stormwater from solid or construction waste by providing designated waste collection areas and containers, arranging for regular disposal, and training employees and subcontractors.

Suitable Applications:
This BMP is suitable for construction sites where the following wastes are generated or stored:

- Solid waste generated from trees and shrubs removed during land clearing, demolition of existing structures (rubble), and building construction.
- Packaging materials including wood, paper, and plastic.
- Scrap or surplus building materials including scrap metals, rubber, plastic, glass pieces, and masonry products.
- Domestic wastes including food containers such as beverage cans, coffee cups, paper bags, plastic wrappers, and cigarettes,
- Construction waste including brick, mortar, timber, steel and metal scraps, pipe and electrical cuttings, non-hazardous equipment parts. Styrofoam and other materials send transport and package construction materials.

Implementation:
The following steps will help keep a clean site and reduce stormwater pollution:
- Select designated waste collection areas onsite.
- Inform trash-hauling contractors that you will accept only watertight dumpsters for onsite use.
- Inspect dumpsters for leaks and repair any dumpster that is not watertight.
- Provide an adequate number of containers with lids or covers that can be placed over the container to keep rain out or to prevent loss of wastes when it is windy.
- Plan for additional containers and more frequent pickup during the demolition phase of construction.
- Collect site trash daily, especially during rainy and windy conditions.
- Remove this solid waste promptly since erosion and sediment control devices tend to collect litter.
- Make sure that toxic liquid wastes (used oils, solvents, and paints) and chemicals (acid, pesticides, additives, curing compounds) are not disposed of in dumpsters designed for construction debris.
- Do not hose out dumpsters on the construction site. Leave dumpster cleaning to the trash hauling contractor.
- Arrange for regular waste collection before containers overflow.
- Clean up immediately if a container does spill.
- Make sure that construction waste is collected, removed, and disposed of only at authorized disposal areas. Solid waste storage areas should be located in areas prone to flooding or ponding.
- Locate solid waste dumpster a minimum of 50' away from storm water inlets or other drainage facilities.
- Locate dumpster on stone or earth to minimize the potential for spills or leaks to drain immediately into a drainage facility.

Inspection and Maintenance:
- Inspect and verify that activity-based BMPs are in place prior to the commencement of associated activities. While activities associated with the BMP are under way, inspect weekly to verify continued BMP implementation.
- Inspect BMPs subject to non-stormwater discharge daily while non-stormwater discharges occur.
- Inspect construction waste are regularly.
- Arrange for regular waste collection.

III. Concrete Washout

The following steps will help reduce stormwater pollution from concrete wastes:
- Discuss the concrete management techniques described in the BMP (such as handling of concrete waste and washout) with the reddy-mix concrete supplier before any deliveries are made.
- Incorporate requirements for concrete waste management into material supplier and subcontractors' agreements.
- Store dry and wet materials under cover, away from drainage areas.
- Avoid mixing excess amounts of fresh concrete.
- Perform washout of concrete trucks offsite or in designed areas only.
- Do not wash concrete trucks into storm drains open ditches, streets, or streams.
- Do no allow excess concrete to be dumped onsite, except in designed areas.

For onsite washout:
- Locate washout areas at least 50 feet from storm drains, open ditches, or water bodies.
- Do not allow runoff from this area by constructing a temporary pit or bermed area large enough for liquid and solid waste.
- Wash out wastes into the temporary pit where the concrete can set, be broken up, and then disposed properly.
- Avoid creating runoff by drinking water to a bermed or level area when washing concrete to remove fine particles and expose the aggregate.
- Do not wash sweepings form exposed aggregate concrete into the street or storm drain. Collect and return sweepings to aggregate base stockpile or dispose in the trash.

IV. Vehicle Maintenance Areas

Purpose– To prevent spills during the normal maintenance of construction machinery.

Implementation– Where and when feasible, maintenance shall be preformed offsite in covered facility with an impervious floor.
- Use a dedicated site for machinery maintenance
- Site the maintenance area at least 50 feet from storm water inlets or water bodies
- Maintain clean up materials close at hand. Utilize drip pans and absorbent pads to prevent oils from reaching the soil surface.
- Inspect equipment daily for leaks or worn hoses. Repair or replace to prevent onsite spills
- Properly dispose of all fluids removed or spilled from machinery.

V. Fluids, paints, solvents and other chemicals storage and use

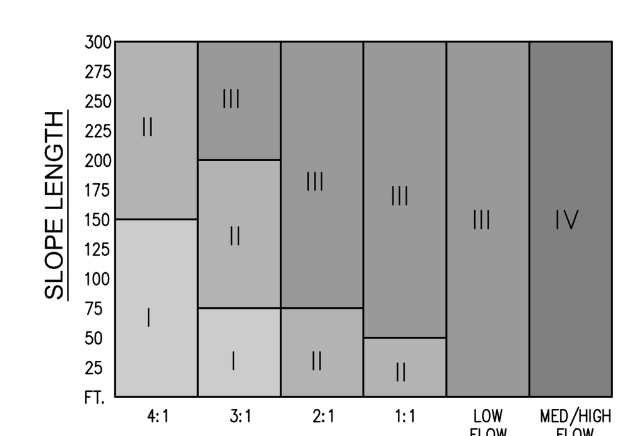
Purpose– To prevent spills during the use and storage of the materials

Implementation–
- Store materials in there original containers
- Maintain safety data sheets on all products
- Store materials in a weather proof/vandal resistant locker or building
- Keep materials away from flammable sources
- Provide and read instructions for the proper use and storage of all materials
- For bulk material stored onsite, provide diking or double containment in case of leaks or failures.
- No washout of solvent from paint supplies should be done near or into a storm water inlet or other drainage facility.

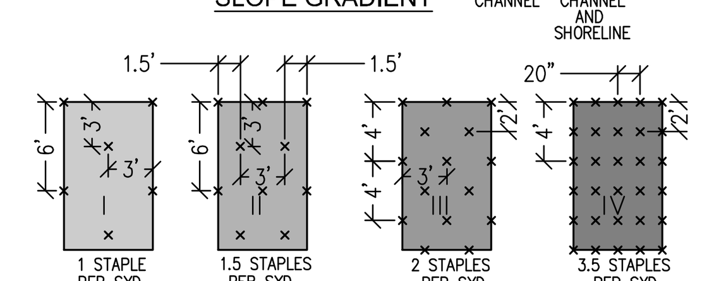
VI. Disposal of sediment laden water

Purpose– To prevent the purposeful discharge of sediment laden water into waters of the United States.

Implementation–
- The sediment and any other pollutant from all pumping or dewatering operations that discharge into storm sewers, wetlands, drainage ways or water bodies must be removed from the water before it's discharged.
- A suitable practice is needed at the discharge to allow the suspended solids to be removed from the water column. Slow moving water and time are needed components for an effective practice. Mechanical filters and chemical flocculants can do an excellent job of removing the fine materials.
- Sediment removal pumping bags may be used at the outlet of a pump. The bags must be sized appropriately for the amount of flow. The practice needs to be installed on erosion resistant surfaces. The outlet of the pumping bag must be erosion resistant to prevent additional sedimentation.
- Pumping operations that are moving clean water through a site are not required to have a pumping bag or similar device at the outlet. The point of discharge should be protected to prevent soil erosion.



SLOPE GRADIENT



EROSION CONTROL BLANKET
STAPLE PATTERN DETAIL

PERMANENT SEED MIXTURES

SPECIES	SEEDING RATE LBS/ACRE	SUITABLE pH	SITE SUITABILITY DROUGHTY	DRAINED	WET
LEVEL AND SLOPING, OPEN AREAS					
TALL FESCUE	35	5.5 – 8.3	2	1	2
TALL FESCUE RED CLOVER **	25 5	5.5 – 8.3		1	
KENTUCKY BLUEGRASS CREEPING RED FESCUE	15 15	5.5 – 7.5	2	1	
STEEP BANKS AND CUTS					
TALL FESCUE KENTUCKY BLUEGRASS	15 25	5.8 – 7.5	2	1	2
TALL FESCUE EMERALD CROWNVETCH **	35 10	5.5 – 8.3	2	1	
LAWNS AND HIGH MAINTENANCE AREAS					
KENTUCKY BLUEGRASS CREEPING RED FESCUE	40 40	5.8 – 7.5	2	1	
PERENNIAL RYEGRASS (TURF TYPE)	170	5.0 – 7.5		1	
TALL FESCUE	170	5.5 – 8.3	2	1	2

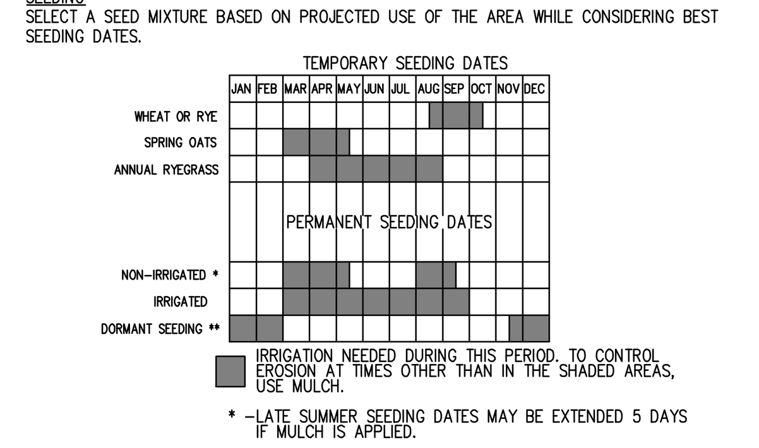
1-PREFERRED 2-WILL TOLERATE ** – INOCULATE WITH SPECIFIC INOCULATES

	SOIL CONDITION WET	NORM	DRY	SHADE TOLERANCE	CLOSE MOWING TO 2-3 1/2 INCHES	TRAMPING TOLERANCE	FERTILITY NEEDS	WINTER HARDINESS	FLOODING TOLERANCE (DAYS)	MATURE HEIGHT (INCHES)	EMERGENCE TIME (DAYS)	SALT TOLERANCE GEN.	SOIL	SPRAY
CREEPING RED FESCUE FESTUCA RUBRA	2	1	2	1	1	1	MED.	1	20–25	12–18	7–21			S
KENTUCKY BLUEGRASS POA PROTINSIS	2	1	2	1	1	1	MED.	1	25–35	12–18	10–20			MT
TALL FESCUE FESTUCA L ARUNDINACEA	2	1	1	1	1	1	LOW	1	24–35	24–36	5–14		T	
PERENNIAL RYEGRASS LOLIUM PERENNE	2	1	2	–	1	2	MED–HIGH	2	15–20	12–18	5–10		MT	
CROWNVETCH CORANILLA VARIA	–	1	1	2	–	–	LOW	1	5–10	24	14–21	T		
RED CLOVER TRIFOLIUM PRATENSE	–	1	–	2	–	–	MED.	1	7–10	18	5–10	S	S	

RANKING
1 GOOD
2 MEDIUM
– NOT TOLERANT

SALT TOLERANCE (TO BOTH SOIL SALTS AND SPRAY)
T – TOLERANCE
MT – MEDIUM TOLERANCE
S – SLIGHT TOLERANCE

SEEDBED PREPARATION
APPLY LIME TO RAISE THE pH TO THE LEVEL NEEDED FOR SPECIES BEING SEEDED. APPLY 23 LBS. OF 12-12-12 ANALYSIS FERTILIZER (OR EQUIVALENT) PER 1,000 SQ. FT. (APPROXIMATELY 1,000 LBS. PER ACRE) OR FERTILIZE ACCORDING TO TEST. APPLICATION OF 150 LBS. OF AMMONIUM NITRATE ON AREAS LOW IN ORGANIC MATTER AND FERTILITY WILL GREATLY ENHANCE VEGETATIVE GROWTH. WORK THE FERTILIZER AND LIME INTO THE SOIL A DEPTH OF 2 TO 3 INCHES WITH A HARROW, DISK, OR RAKE OPERATED ACROSS THE SLOPE AS MUCH AS POSSIBLE. FERTILIZER AND LIME SHALL MEET REQUIREMENTS OF INDOT STANDARD SPECIFICATIONS 1995.
SEEDING
SELECT A SEED MIXTURE BASED ON PROJECTED USE OF THE AREA WHILE CONSIDERING BEST SEEDING DATES.



TEMPORARY SEEDINGS

KIND OF SEED	PER 1,000 SQ. FT.	PER ACRE	REMARKS
WHEAT OR RYE	[illegible]	[illegible]	[illegible]
SPRING OATS	[illegible]	[illegible]	[illegible]
ANNUAL RYEGRASS	[illegible]	[illegible]	[illegible]

* NOT NECESSARY WHERE MULCH IS APPLIED.

Johnson County, Indiana (IN081)

FOX LOAM - URBAN LAND COMPLEX (YflA)
This nearly level soil is in stream terraces, swales & depressions on stream terraces, or treads & toeslopes . Slopes are 0 to 2 percent. Runoff is low. Land is well drained. This soil has no frequency of flooding or ponding.

SOIL MAP AND DESCRIPTION
NOT TO SCALE

VICINITY MAP
NOT TO SCALE

LEGAL DESCRIPTION

LOTS 73, 74, 75 AND 76 IN THE ORIGINAL PLAT OF FRANKLIN, THE PLAT WHICH IS RECORDED IN PLAT BOOK 1, PAGE 1, IN THE OFFICE OF THE RECORDER OF JOHNSON COUNTY, INDIANA.

ADDITIONAL EROSION CONTROL MEASURES MAY BE REQUIRED BY STATE OR COUNTY OFFICIALS

GREGORY J. ILKO
REGISTERED
NO. 10300059
STATE OF INDIANA
PROFESSIONAL ENGINEER

CROSSROAD ENGINEERS, PC
TRANSPORTATION & DEVELOPMENT CONSULTANTS

EROSION CONTROL DETAILS
WAYNE STREET TOWNHOMES

JOB No.	-	DRAWN	DEP/KLF	CHECKED	GJI
DATE	APRIL 8, 2021	DESIGNED	CDM	APPR.	GJI

NO.	DATE	REVISIONS	BY	APPR.
1				
2				
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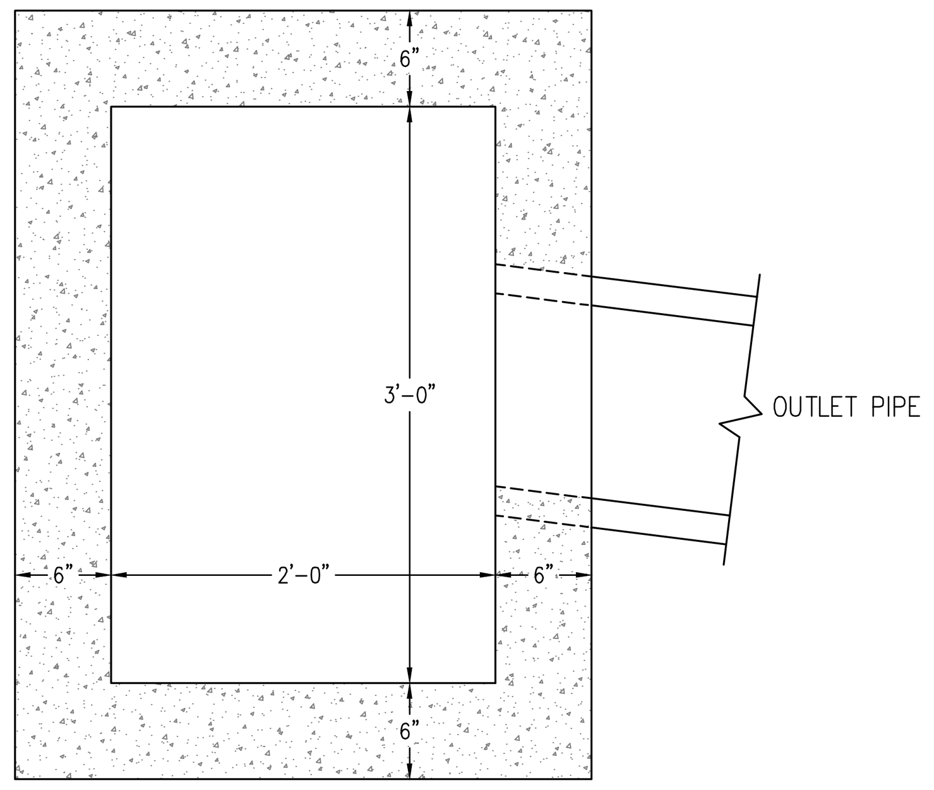
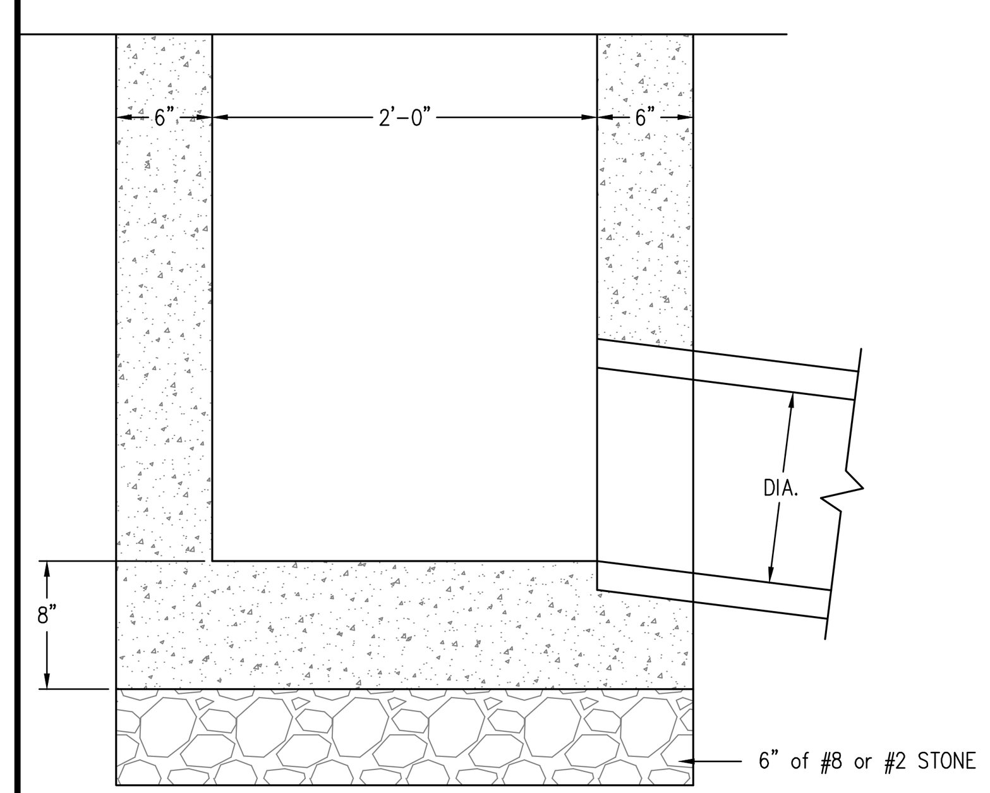
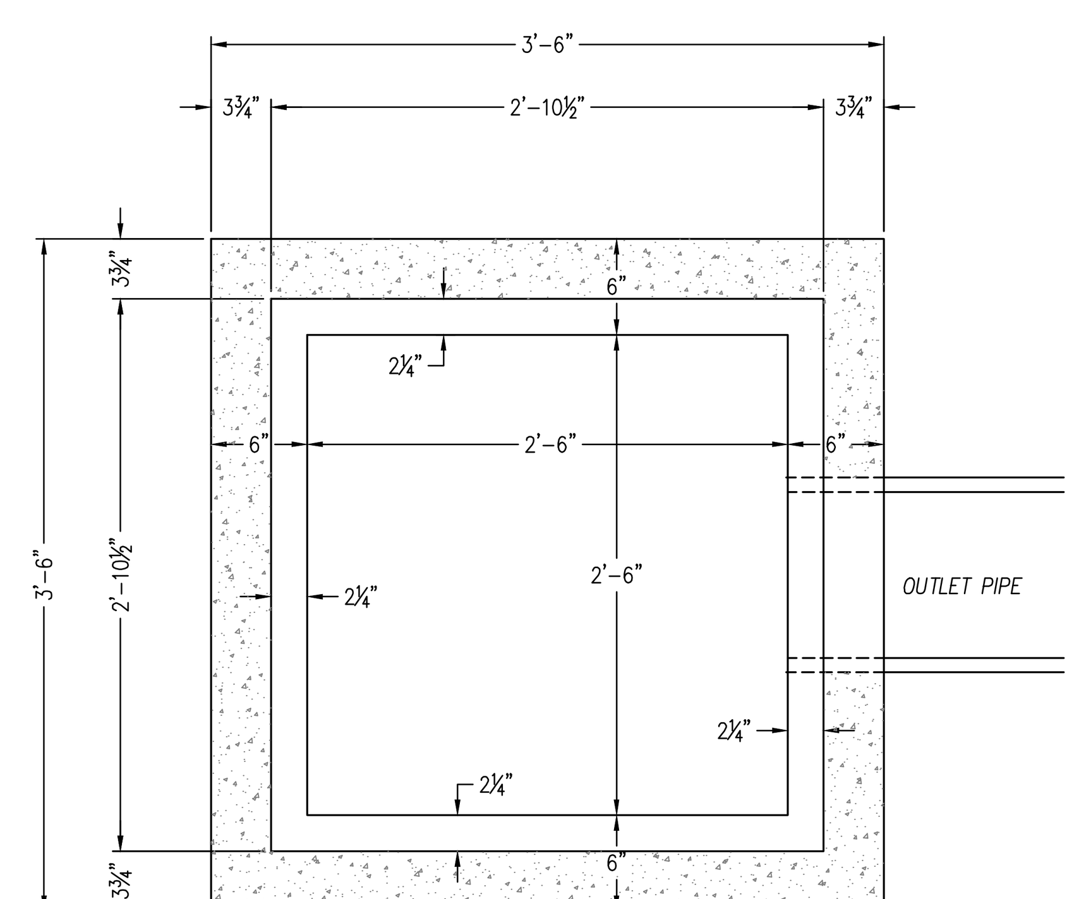
SHEET 801



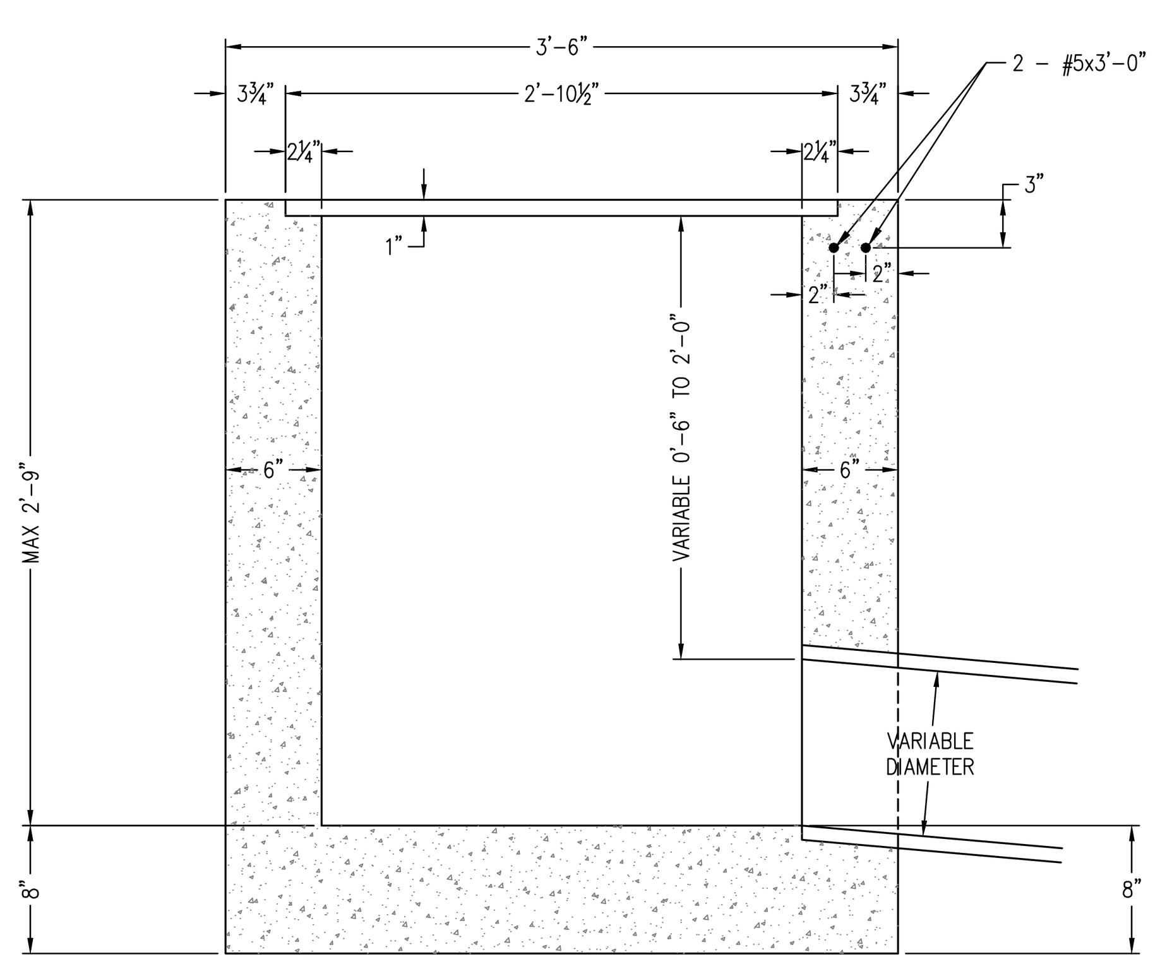
PLAN VIEW



ELEVATION VIEW
INLET TYPE 'B'
NOT TO SCALE



PLAN VIEW



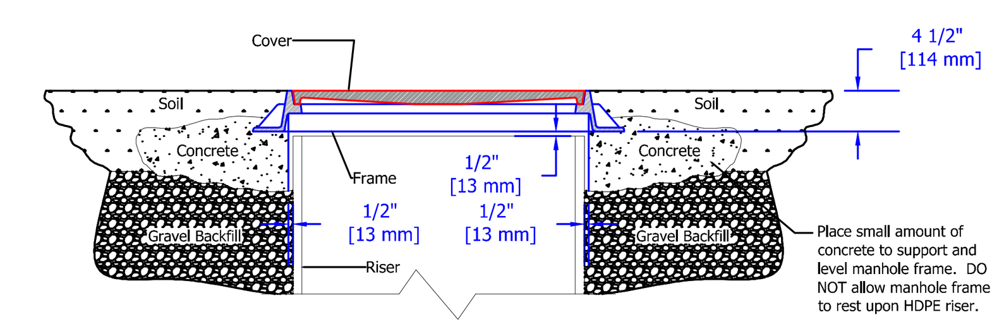
ELEVATION VIEW
INLET TYPE 'E'
NOT TO SCALE

STANDARD NOTE:

1. System shall be designed for the following capacities:
Peak Treatment Flow: 1.1 cfs [31 L/s]
Sediment Storage: 10 ft³ [0.3 m³]
Oil/Debris Storage: 37 gal. [140 L]

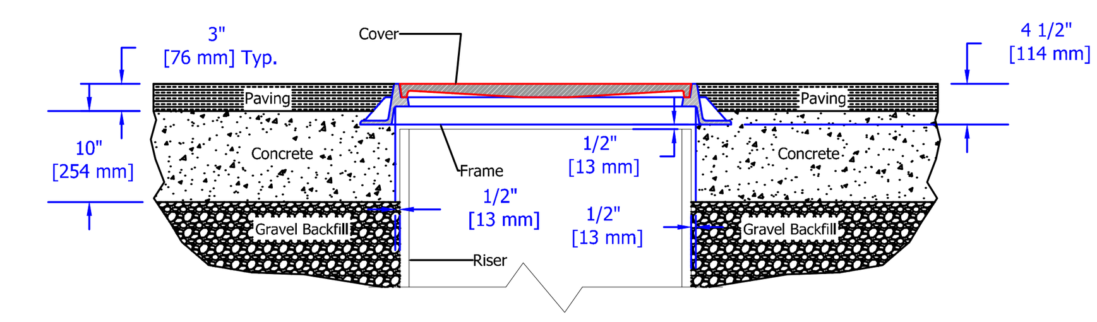
* Please see accompanied Aqua-Swirl specification notes.
* See Site Plan for actual system orientation.
** Orientation may vary from 90°, 180°, or custom angles to meet site conditions.

Bollards shall be placed around access riser(s) in non-traffic areas to prevent inadvertent loading by maintenance vehicles.

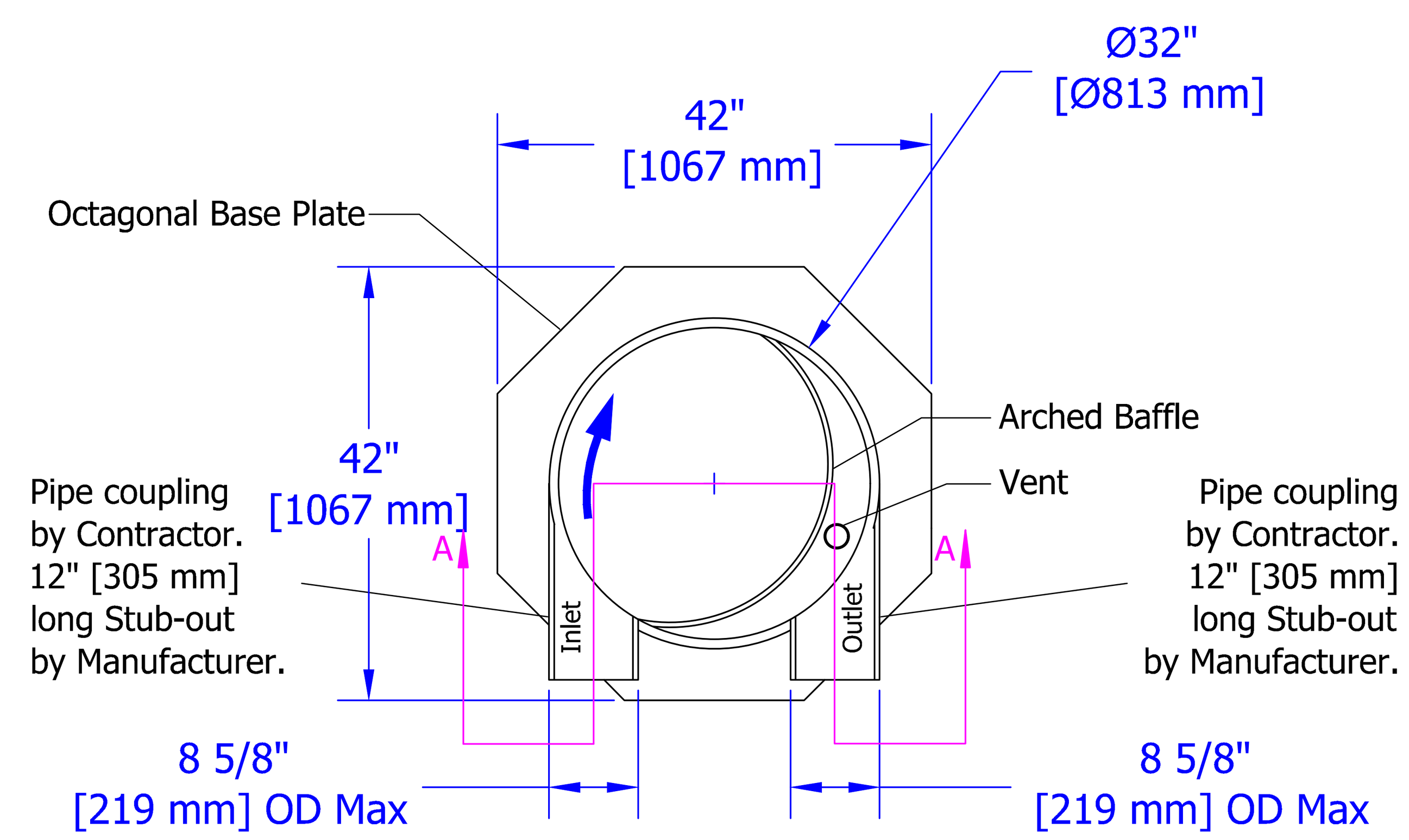


Manhole Frame & Cover Detail
For Non-Traffic Areas Only
NTS

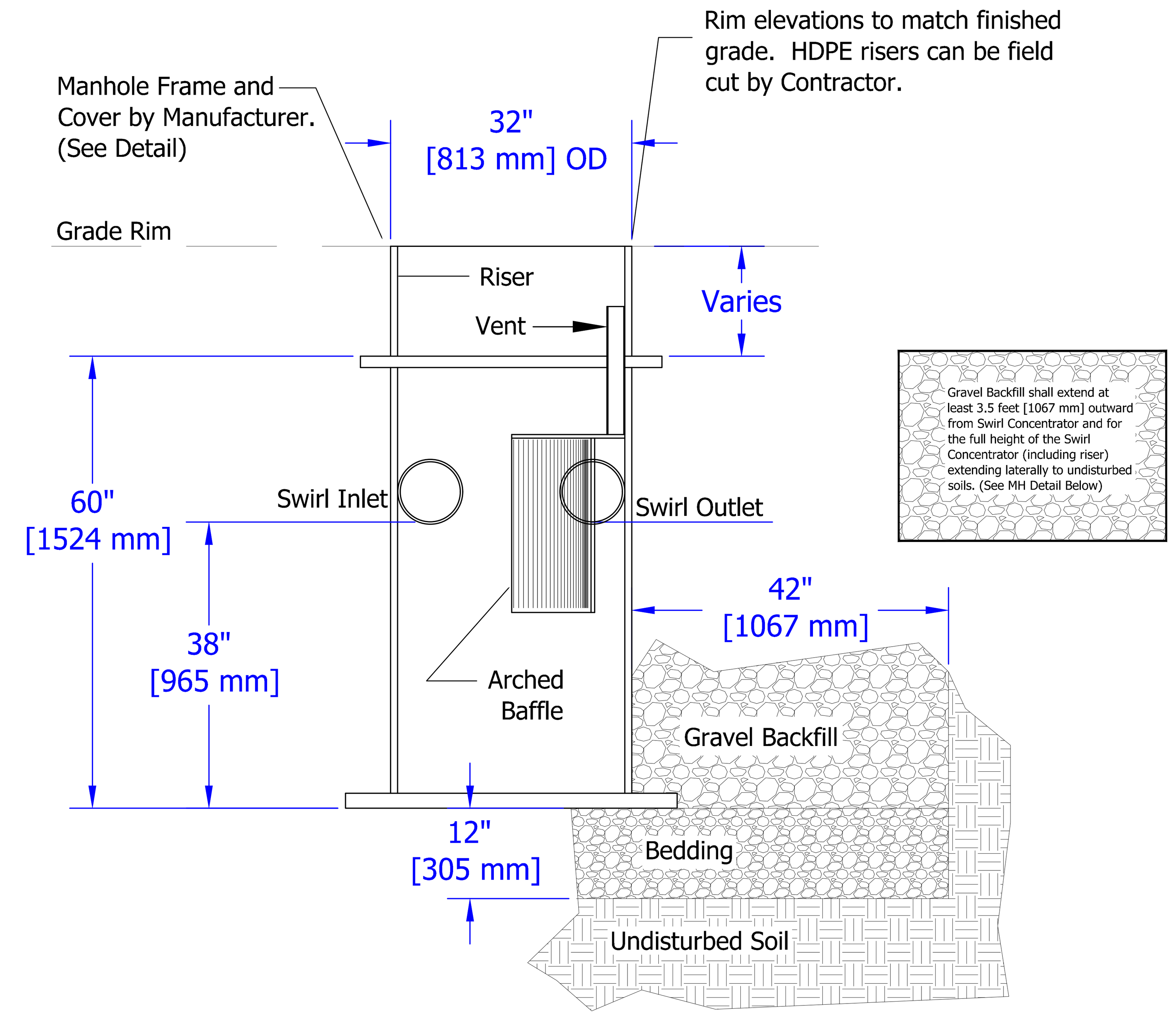
If traffic loading (H-20) is required or anticipated, a concrete pad must be placed over the entire Stormwater Treatment System. Sample details of concrete pad available upon request.



Manhole Frame & Cover Detail
For H-20 Traffic Loading Areas
NTS



Plan View



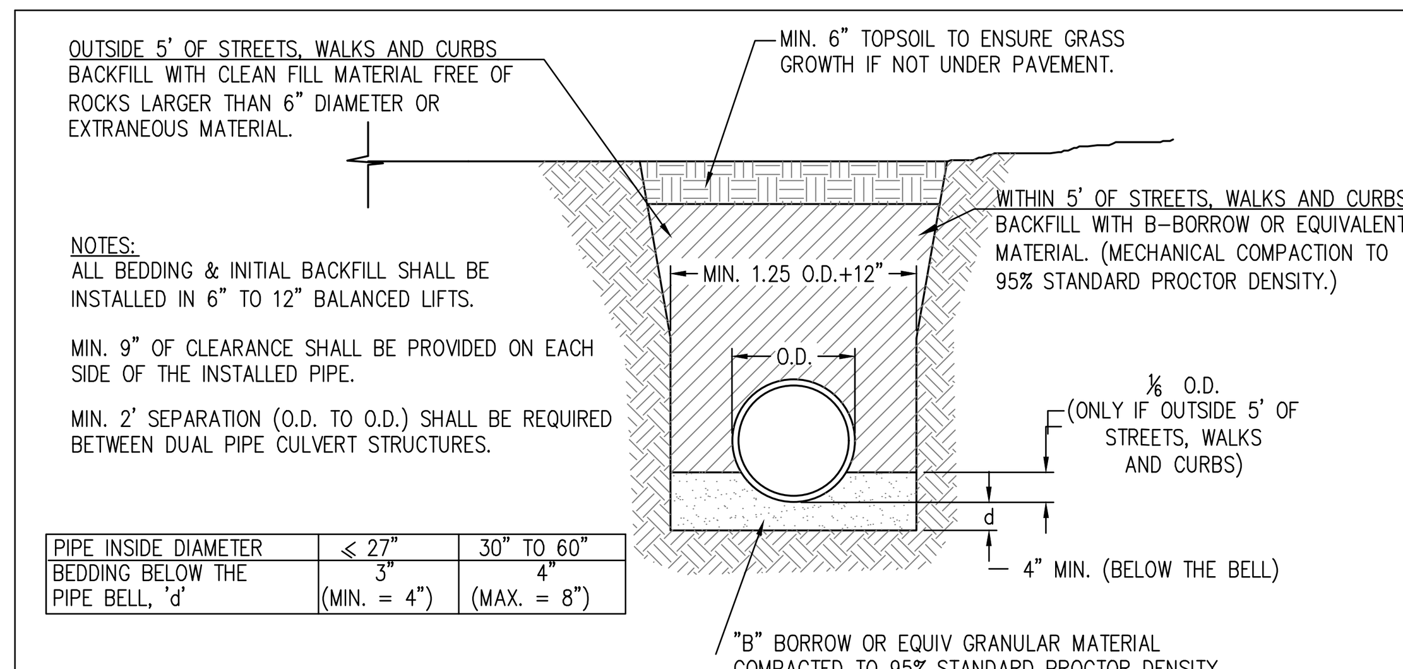
Section A-A

AquaShield
2705 Kanasita Drive, Chattanooga, TN 37343
Phone (888) 344-9044 Fax (423) 826-2112
www.aquashieldinc.com

Document:	AS-2 STD
Drawn By:	BLR
Scale:	1:20
Date:	11/06/08

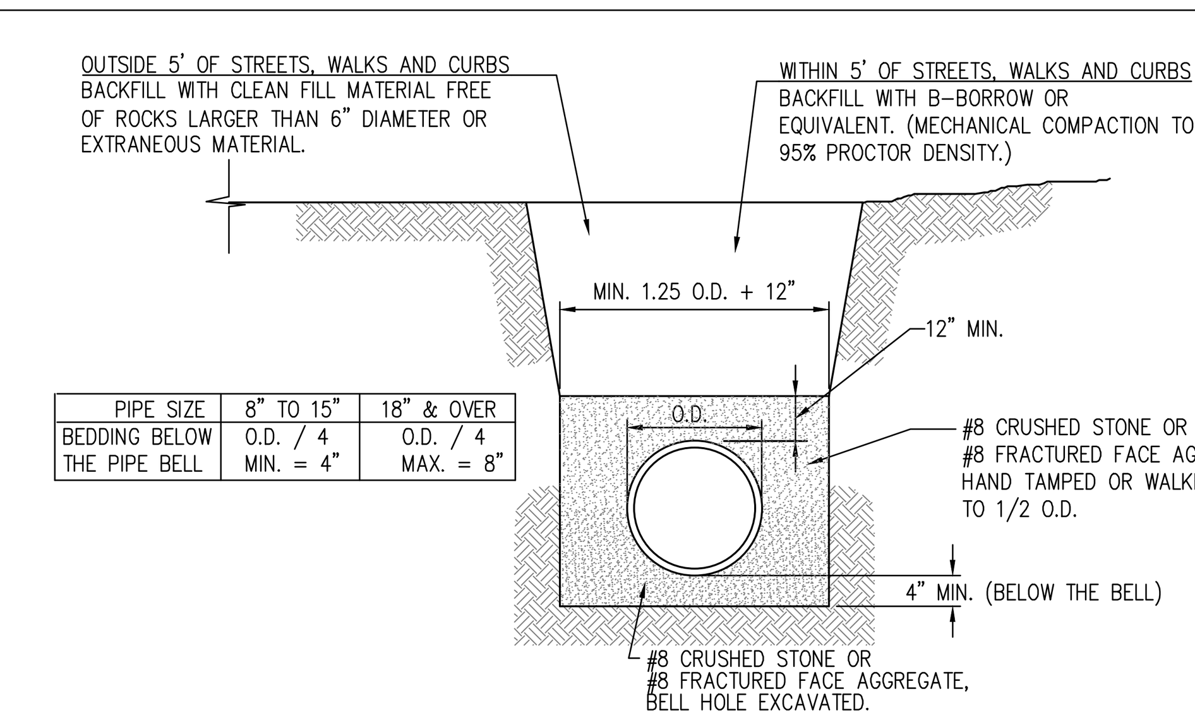
U.S. Patent No. 6524473 and other Patent Pending

Aqua-Swirl Concentrator Model AS-2 Off-Line Horseshoe Standard Detail



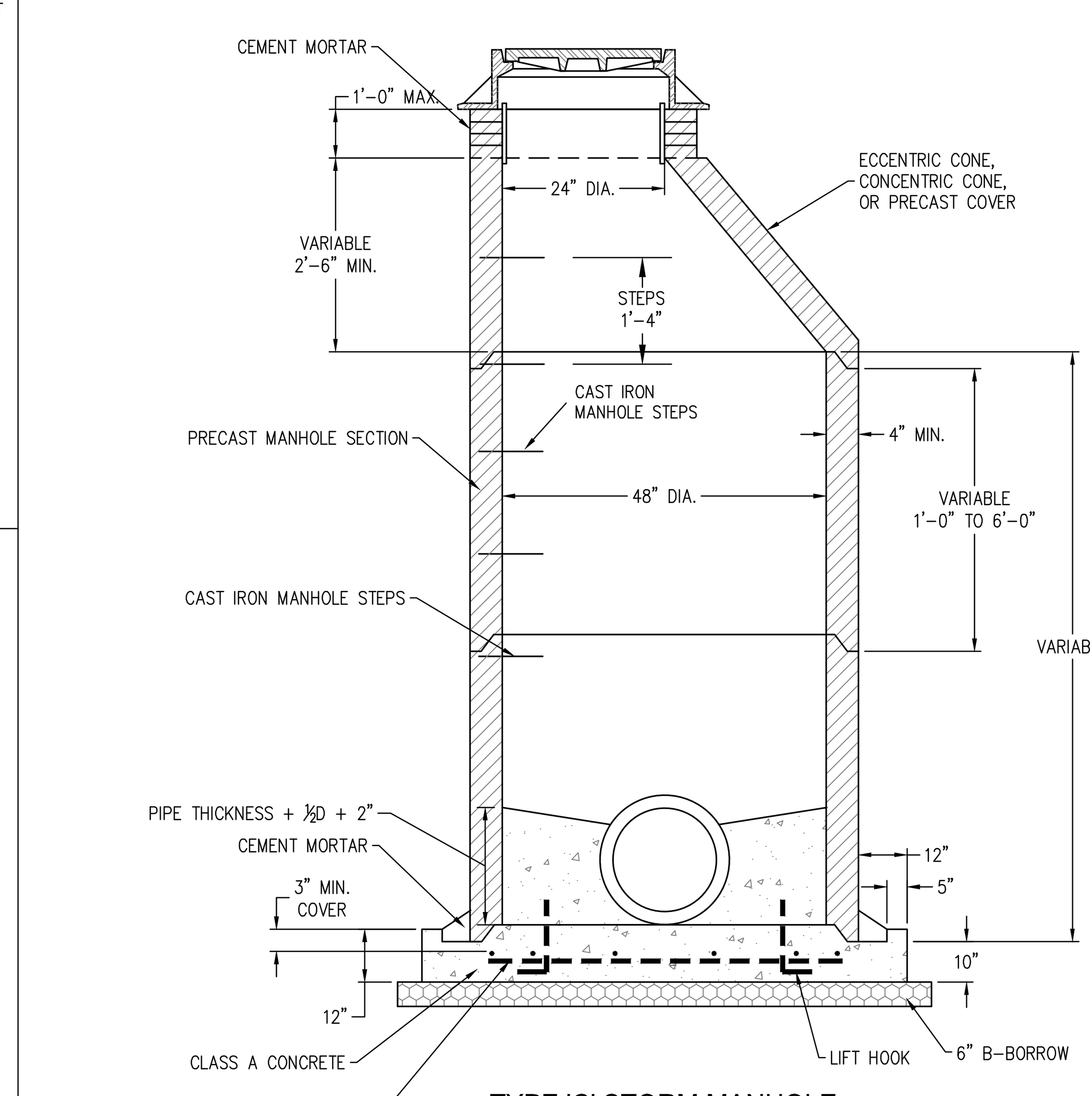
PIPE INSIDE DIAMETER	≤ 27"	30" TO 60"
BEDDING BELOW THE PIPE BELL, 'd'	3" (MIN. = 4")	4" (MAX. = 8")

RIGID PIPE BEDDING DETAIL
RCP AND VCP PIPE
NOT TO SCALE

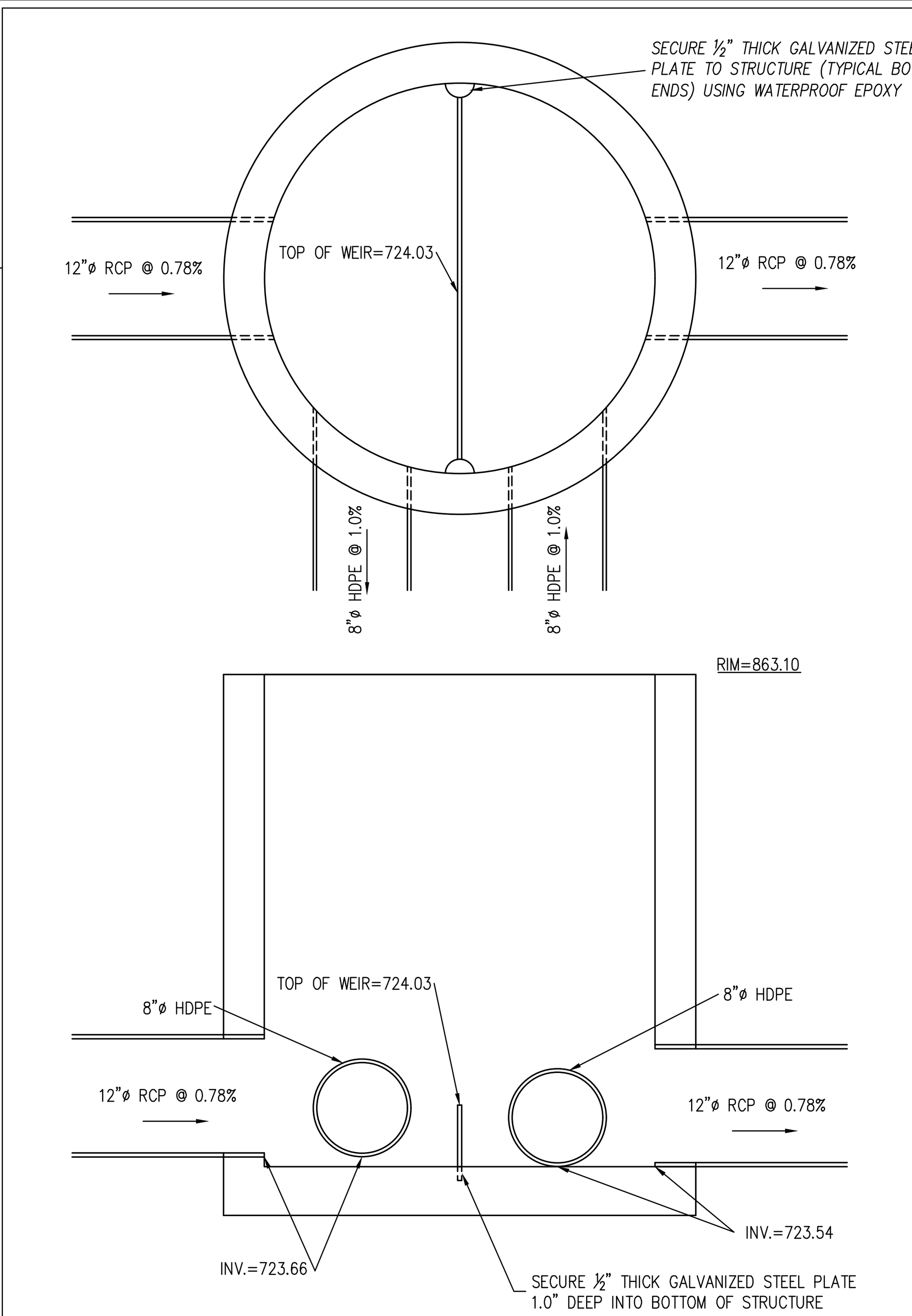


PIPE SIZE	8" TO 15"	18" & OVER
BEDDING BELOW THE PIPE BELL	O.D. / 4 MIN. = 4"	O.D. / 4 MAX. = 8"

FLEXIBLE PIPE BEDDING DETAIL
PVC AND HDPE PIPE
NOT TO SCALE



TYPE 'C' STORM MANHOLE
NOT TO SCALE



DIVERSION STRUCTURE DETAIL
STR. NO. 4
NO SCALE

CROSSROAD ENGINEERS, PC
TRANSPORTATION & DEVELOPMENT CONSULTANTS

MISCELLANEOUS DETAILS

WAYNE STREET TOWNHOMES

DRAWN	DEP/KLF	CHECKED	GJI	
DESIGNED	CDM	APPR.	GJI	
JOB No.	-	DATE	APRIL 8, 2021	

GREGORY J. ILKO REGISTERED NO. 10300059 STATE OF INDIANA PROFESSIONAL ENGINEER

NO.	DATE	REVISIONS	BY	APPR.
1				
2				
3				
4				
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9				

SHEET 900

DIRECTORY PATH : R:\Active\Bemis Group\Wayne Street Townhomes\Design\CAD\Plans
FILENAME : 900 MISCELLANEOUS DETAILS.dwg
DATE/USER : 4/8/2021 12:00 PM / kbogg

EARTHWORK

1. SCOPE OF WORK

A. EXTENT: THE WORK REQUIRED UNDER THIS SECTION CONSISTS OF ALL EXCAVATING, FILLING, ROUGH GRADING AND RELATED ITEMS NECESSARY TO COMPLETE THE WORK INDICATED ON THE DRAWINGS AND DESCRIBED IN THE SPECIFICATIONS. THE CONTRACTOR SHALL NOTIFY IN WRITING THE OWNER AND THE ENGINEER OF ANY CHANGES, ERRORS OR OMISSIONS FOUND ON THE PLANS OR IN THE FIELD, BEFORE WORK IS STARTED OR RESUMED.

1. IN GENERAL, THE ITEMS OF WORK TO BE PERFORMED UNDER THIS SECTION SHALL INCLUDE CLEARING AND GRUBBING, REMOVAL OF TREES AND STUMPS, STRIPPING AND STORAGE OF TOPSOIL, FILL COMPACTION AND ROUGH GRADING OF ENTIRE SITE. ALL TREES SHALL BE REMOVED UNLESS OTHERWISE NOTED IN PLANS OR DIRECTED BY OWNER.
2. EXCAVATED MATERIAL THAT IS SUITABLE MAY BE USED FOR FILLS. ALL UNSUITABLE MATERIAL AND ALL SURPLUS EXCAVATED MATERIAL NOT REQUIRED SHALL BE REMOVED FROM THE SITE. THE LOCATION OF DUMP AND LENGTH OF HAUL SHALL BE THE CONTRACTOR'S RESPONSIBILITY.
3. PROVIDE AND PLACE ANY ADDITIONAL FILL MATERIAL FROM OFF THE SITE AS MAY BE NECESSARY TO PRODUCE THE GRADES REQUIRED. FILL OBTAINED FROM OFF SITE SHALL BE OF KIND AND QUALITY AS SPECIFIED FOR FILLS HEREIN AND THE SOURCE APPROVED BY THE OWNER.
4. THE CONTRACTOR SHALL ACCEPT THE SITE AS HE FINDS IT AND SHALL REMOVE ALL TRASH, RUBBISH AND DEBRIS FROM THE SITE PRIOR TO STARTING EXCAVATION

2. BENCHMARK

A. MAINTAIN CAREFULLY ALL BENCH MARKS, MONUMENTS AND OTHER REFERENCE POINTS; IF DISTURBED OR DESTROYED, CONTRACTOR SHALL CONTACT ENGINEER.

3. REMOVAL OF TREES

A. THE INTEGRITY OF THE TOPOGRAPHIC FEATURES (INCLUDING TREES) SHALL BE PERSEVERED AS MUCH AS POSSIBLE THE CONTRACTOR SHALL COORDINATE WITH OWNER AND/OR ENGINEER PRIOR TO CLEARING THE SITE FOR CONSTRUCTION.

B. ALL BRUSH, STUMPS, WOOD AND OTHER REFUSE FROM THE TREES REMOVED SHALL BE HAULED TO DISPOSAL AREAS OFF OF THE SITE. DISPOSAL BY BURNING SHALL NOT BE PERMITTED UNLESS PROPER PERMITS ARE OBTAINED (WHERE APPLICABLE).

4. HANDLING OF TOPSOIL

A. REMOVE ALL ORGANIC MATERIAL FROM THE AREAS TO BE OCCUPIED BY BUILDINGS, ROADS, WALKS AND PARKING AREAS. PILE AND STORE TOPSOIL AT A LOCATION WHERE IT WILL NOT INTERFERE WITH CONSTRUCTION OPERATIONS. TOPSOIL SHALL BE REASONABLE FREE FROM SUBSOIL, DEBRIS, WEEDS, GRASS, STONES, ETC.

B. AFTER COMPLETION OF SITE GRADING AND SUBSURFACE UTILITY INSTALLATION, TOPSOIL SHALL BE REPLACED IN AREAS DESIGNATED ON THE EROSION CONTROL PLAN FOR SEEDING AND/OR SODDING. ANY REMAINING TOPSOIL SHALL BE USED FOR FINISHED GRADING AROUND STRUCTURES AND LANDSCAPING AREAS.

5. DISPOSITION OF UTILITIES

A. RULES AND REGULATIONS GOVERNING THE RESPECTIVE UTILITIES SHALL BE OBSERVED IN EXECUTING ALL WORK UNDER THIS SECTION.

B. IF ACTIVE UTILITIES ARE ENCOUNTERED BUT NOT SHOWN ON THE DRAWINGS, THE ENGINEER SHALL BE ADVISED BEFORE WORK IS CONTINUED.

C. INACTIVE AND ABANDONED UTILITIES ENCOUNTERED IN EXCAVATING AND GRADING OPERATIONS SHALL BE REPORTED TO THE ENGINEER. THEY SHALL BE REMOVED, PLUGGED OR CAPPED AS DIRECTED BY THE UTILITY COMPANY OR THE ENGINEER.

D. IT SHALL BE THE RESPONSIBILITY OF EACH CONTRACTOR TO VERITY ALL EXISTING UTILITIES AND CONDITIONS PERTAINING TO HIS PHASE OF THE WORK. IT SHALL ALSO BE THE CONTRACTOR'S RESPONSIBILITY TO CONTACT THE OWNERS OF THE VARIOUS UTILITIES BEFORE WORK IS STARTED.

6. SITE GRADING

A. GRADES: CONTRACTOR SHALL PERFORM ALL CUTTING, FILLING, COMPACTING OF FILLS AND ROUGH GRADING REQUIRED TO BRING ENTIRE PROJECT AREA TO GRADE AS SHOWN ON THE DRAWINGS.

B. ROUGH GRADING: THE TOLERANCE FOR PAVED AREAS SHALL NOT EXCEED 0.10 FEET PLUS OR MINUS ABOVE THE ESTABLISHED SUBGRADE. ALL OTHER AREAS SHALL NOT EXCEED 0.10 FEET PLUS OR MINUS THE ESTABLISHED GRADE. ALL BANKS AND OTHER BREAKS IN GRADE SHALL BE ROUNDED AT THE TOP AND BOTTOM.

C. COMPACTION REQUIREMENTS:

1. ALL BUILDING PAD AREAS SHALL BE COMPACTED TO STANDARDS SPECIFIED BY LOCAL AND/OR STATE BUILDING CODES.
2. COMPACTION REQUIREMENTS OF PAVED AREAS SHALL BE 95% OF MAXIMUM DRY DENSITY.

7. EARTH WORK BALANCE

A. THE CONTRACTOR SHALL CONFIRM ALL EARTHWORK QUANTITIES PRIOR TO START OF CONSTRUCTION. IF AN EXCESS OR SHORTAGE OF EARTH IS ENCOUNTERED, THE CONTRACTOR SHALL CONFIRM WITH THE OWNER AND ENGINEER THE REQUIREMENTS FOR STOCKPILING, REMOVAL OR IMPORTING OF EARTH.

MINOR ADJUSTMENTS TO THE GRADES MAY BE REQUIRED TO EARTHWORK BALANCES WHEN MINOR EXCESS MATERIAL OR SHORTAGES ARE ENCOUNTERED. IT IS RECOGNIZED BY THE PARTIES HERETO THAT THE CALCULATIONS OF THE ENGINEER IN ACCORDANCE WITH THE AMERICAN SOCIETY OF CIVIL ENGINEERS STANDARDS FOR SUCH CALCULATIONS. FURTHER, THAT THESE CALCULATIONS ARE SUBJECT TO THE INTERPRETATIONS OF SOIL BORINGS AS THE PHYSICAL LIMITS IN FINISH GRADE AND COMPACTION PERMITTED THE CONTRACTOR, AND THAT ALL OF THESE PARAMETERS MAY CAUSE EITHER AN EXCESS OR SHORTAGE OF ACTUAL EARTHWORK MATERIALS TO COMPLETE THE PROJECT. IF SUCH AN ACTUAL MINOR EXCESS OR SHORTAGE OF ACTUAL EARTHWORK MATERIALS OCCURS, THE CONTRACTOR SHALL CONTACT THE ENGINEER TO DETERMINE IF ADJUSTMENTS CAN BE MADE TO CORRECT THE IMBALANCE OF EARTH.

STREETS

1. SCOPE OF WORK

A. THE WORK REQUIRED UNDER THIS SECTION INCLUDES ALL CONCRETE AND BITUMINOUS PAVING AND RELATED ITEMS NECESSARY TO COMPLETE THE WORK INDICATED ON THE DRAWINGS AND DESCRIBED IN THE SPECIFICATIONS, INCLUDING BUT NOT LIMITED TO:

1. ALL STREETS, PARKING AREAS WITHIN THE CONTRACT LIMITS.
2. CURBS AND CONCRETE RAMPS.
3. SIDEWALKS AND CONCRETE SLABS.
4. IN THE CASE OF ANY CONFLICTS WITH THESE SPECIFICATIONS AND LOCAL, STATE, FEDERAL SPECIFICATIONS THE MORE STRINGENT SHALL APPLY.

B. IN THE CASE OF ANY CONFLICTS WITH THESE SPECIFICATIONS AND LOCAL, STATE, FEDERAL SPECIFICATIONS THE MORE STRINGENT SHALL APPLY.

2. PAVEMENT CONSTRUCTION

A. ALL STREET CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE PLANS AND SPECIFICATIONS AND CONFORM TO THE MINIMUM STANDARDS OF THE JOHNSON COUNTY PLANNING AND HIGHWAY DEPARTMENTS, AND IF THERE ARE AREAS UNDEFINED USE THE MOST CURRENT I.N.D.O.T. STANDARD SPECIFICATION.

B. FLEXIBLE PAVEMENT

1. MATERIALS

A. GENERAL: USE LOCALLY AVAILABLE MATERIALS AND GRADATIONS WHICH EXHIBIT A SATISFACTORY RECORD OF PREVIOUS INSTALLATIONS.

B. COMPACTED AGGREGATE BASE: SOUND, ANGULAR CRUSHED LIMESTONE, CRUSHED OR UNCRUSHED GRAVEL, OR CRUSHED OR PROCESSED AIR-COOLED BLAST FURNACE SLAG. COURSE AGGREGATE SHALL BE CLASS A, TYPE "O" AND CONFORM TO THE MOST CURRENT I.N.D.O.T. STANDARD SPECIFICATION.

C. BASE COURT AGGREGATE: SOUND, ANGULAR CRUSHED STONE, CRUSHED OR UNCRUSHED GRAVEL, OR CRUSHED SLAG, SAND, STONE, OR SLAG SCREENINGS. COARSE AGGREGATES SHALL BE CLASS A OR B AND CONFORM TO I.N.D.O.T. STANDARDS SPECIFICATIONS SECTION 903.

D. COARSE AGGREGATE FOR SURFACE AND BINDER MIXTURES: CRUSHED STONE, CRUSHED GRAVEL, CRUSHED SLAB, AND SHARP EDGED NATURAL SAND. SURFACE COARSE AGGREGATES SHALL BE CLASS A AND CONFORM TO I.N.D.O.T. STANDARD SPECIFICATIONS SECTION 903.

E. ASPHALT CEMENT: PETROLEUM ASPHALT CEMENT, AP 5 WITH PENETRATION OF 60-70 OR VISCOSITY GRADED ASPHALT CEMENT AC-20 CONFORMING TO THE MOST CURRENT I.N.D.O.T. STANDARD SPECIFICATION.

F. PRIME COAT: MEDIUM-CURE LIQUID ASPHALT OR ASPHALT EMULSION CONFORMING TO THE MOST CURRENT I.N.D.O.T. STANDARD SPECIFICATION.

G. TACK COAT: RAPID-CURE LIQUID ASPHALT OR ASPHALT EMULSION CONFORMING TO THE MOST CURRENT I.N.D.O.T. STANDARD SPECIFICATION.

H. LANE MARKING PAINT: CHLORINATED RUBBER-ALKYD TYPE, AASHTO M248 (FS TT-P-115), TYPE III.

I. SEAL COAT: (NOT APPLICABLE IN JOHNSON COUNTY)

3. ASPHALT-AGGREGATE MIXTURE

ALL BITUMINOUS MIXTURES ARE TO CONFORM TO CURRENT I.N.D.O.T. SPECIFICATIONS

A. SURFACE COURSE: HMA SURFACE 9.5mm

B. BINDER COURSE: HMA INTERMEDIATE 19.0mm

C. BASE COURSE: TYPE: HMA BASE 25.0mm

**PROVIDED A JOB MIX FORMULA FOR EACH TYPE OF ASPHALT PRIOR TO THE BEGINNING OF THE CONSTRUCTION PROJECT.

4. SURFACE PREPARATION

A. REMOVE LOOSE MATERIAL FROM COMPACTED SUBBASE SURFACE IMMEDIATELY BEFORE APPLYING PRIME COAT.

I) PROOF ROLL SUBGRADE SURFACE WITH LOADED TRI-AXLE TRUCK (48 HOUR NOTICE IS REQUIRED TO BE GIVEN TO THE JOHNSON COUNTY HIGHWAY DEPT.) TO CHECK FOR UNSTABLE AREAS AND AREAS REQUIRING ADDITIONAL COMPACTION.

II) NOTIFY CONTRACTOR OF UNSATISFACTORY CONDITIONS. DO NOT BEGIN PAVING WORK UNTIL DEFICIENT SUBBASE AREAS HAVE BEEN CORRECTED AND ARE READY TO RECEIVE PAVING.

B. AGGREGATE BASE: AFTER PLACEMENT, PROOF ROLL COMPACTED AGGREGATE BASE SURFACE TO CHECK FOR UNSTABLE AREAS AND AREAS REQUIRING ADDITIONAL COMPACTION.

I) NOTIFY CONTRACTOR OF UNSATISFACTORY CONDITIONS. DO NOT BEGIN PAVING WORK UNTIL DEFICIENT AGGREGATE BASE AREAS HAVE BEEN CORRECTED AND ARE READY TO RECEIVE PAVING.

II) REMOVE LOOSE MATERIAL FROM COMPACTED AGGREGATE BASE SURFACE IMMEDIATELY BEFORE APPLYING PRIME COAT.

5. PLACING THE MIX

A. GENERAL: PLACE BITUMINOUS AGGREGATE MIXTURE ON PREPARED SURFACE, SPREAD AND STRIKE-OFF. SPREAD MIXTURE AT MINIMUM TEMPERATURE OF 225 DEGREES F.(107 DEGREES C). PLACE INACCESSIBLE AND SMALL AREAS BY HAND. PLACE EACH COURSE TO REQUIRED GRADE, CROSS-SECTION, AND COMPACTED THICKNESS.

B. BASE COURSE, COMPACTED AGGREGATE: SPREAD AND COMPACT IN TWO LIFTS AS FOLLOWS:

I) FIRST LIFT: NO. 5'S SHALL BE A MINIMUM OF 4" OR ½ THE TOTAL DEPTH OF AGGREGATE. EXTEND THE FIRS LIFT 4" OR A DISTANCE EQUAL TO THE DEPTH OF THE LIFT BEYOND THE SECOND LIFT.

II) SECOND LIFT: SIZE NO. 53

C. PRIME COAT: SUBBASE SURFACE SHALL BE PRIMED IN ACCORDANCE WITH THE APPLICABLE REQUIREMENTS OF THE MOST CURRENT I.N.D.O.T. STANDARD SPECIFICATION.

D. HOT ASPHALT CONCRETE BINDER COURSE: SPREAD AND ROLL TO MINIMUM FINISH DEPTHS INDICATED ON DETAILS.

E. TACK COAT: BINDER COURSE SHALL BE TACKED PRIOR TO THE INSTALLATION OF THE SURFACE COURSE IN ACCORDANCE WITH THE APPLICABLE REQUIREMENTS OF THE MOST CURRENT I.N.D.O.T. STANDARD SPECIFICATION.

F. SURFACE COURSE: SPREAD AND ROLL TO MINIMUM FINISH DEPTH INDICATED ON DETAILS. FINISH ELEVATION SHALL BE TRUE TO LINE AND GRADE WITHIN ½" OF TRUE ELEVATIONS.

G. PAVER PLACING: PLACE IN STRIPS NOT LESS THAN 10' WIDE, UNLESS OTHERWISE ACCEPTABLE TO ARCHITECT/ENGINEER. AFTER FIRST STRIP HAS BEEN PLACED AND ROLLED, PLACE SUCCEEDING STRIPS AND EXTEND ROLLING TO OVERLAP PREVIOUS STRIPS. COMPLETE BINDER COURSE FOR A SECTION BEFORE PLACING SURFACE COURSE.

H. JOINTS: MAKE JOINTS BETWEEN OLD AND NEW PAVEMENTS, OR BETWEEN PAVER PASSES, OR BETWEEN SUCCESSIVE DAYS WORK, TO ENSURE CONTINUOUS BOND BETWEEN ADJOINING WORK. CONSTRUCT JOINTS TO HAVE SAME TEXTURE, DENSITY AND SMOOTHNESS AS OTHER SECTIONS. CLEAN CONTACT SURFACES AND APPLY TACT COAT.

6. ROLLING

A. GENERAL: BEGIN ROLLING WHEN MIXTURE WILL BEAR ROLLER WEIGHT WITHOUT EXCESSIVE DISPLACEMENT.

I) COMPACT MIXTURE WITH HOT HAND TAMPERS OR VIBRATING PLATE COMPACTORS IN AREAS INACCESSIBLE TO ROLLERS.

B. BREAKDOWN ROLLING: ACCOMPLISH BREAKDOWN OR INITIAL ROLLING IMMEDIATELY FOLLOWING ROLLING OF JOINTS AND OUTSIDE EDGE. CHECK SURFACE AFTER BREAKDOWN ROLLING, AND REPAIR DISPLACED AREAS BY LOOSENING AND FILLING, IF REQUIRED, WITH HOT MATERIAL.

C. SECOND ROLLING: FOLLOW BREAKDOWN ROLLING AS SOON AS POSSIBLE, WHICH MIXTURE IS HOT. CONTINUE SECOND ROLLING UNTIL MIXTURE HAS BEEN THOROUGHLY COMPACTED.

D. FINISH ROLLING: PERFORM FINISH ROLLING WHILE MIXTURE IS STILL WARM ENOUGH FOR REMOVAL OF ROLLER MARKS. CONTINUE ROLLING UNTIL ROLLER MARKS ARE ELIMINATED AND COURSE HAS ATTAINED MAXIMUM DENSITY.

E. PATCHING: REMOVE AND REPLACE PAVING AREAS MIXED WITH FOREIGN MATERIALS AND DEFECTIVE AREAS. CUT OUT SUCH AREAS AND FILL WITH FRESH, HOT BITUMINOUS AGGREGATE MIX. COMPACT BY ROLLING TO MAXIMUM SURFACE DENSITY AND SMOOTHNESS.

F. PROTECTION: AFTER FINAL ROLLING, DO NOT PERMIT VEHICULAR TRAFFIC ON PAVEMENT UNTIL IT HAS COOLED AND HARDENED.

G. ERECT BARRICADES TO PROTECT PAVING FROM TRAFFIC UNTIL MIXTURE HAS COOLED ENOUGH NOT TO BECOME MARKED.

H. SEAL COAT: (NOT APPLICABLE IN JOHNSON COUNTY)

7. TRAFFIC AND LANE MARKINGS

A. CLEANING: SWEEP AND CLEAN SURFACE TO ELIMINATE LOOSE MATERIAL AND DUST.

B. STRIPPING: USE CHLORINATED RUBBER BASE TRAFFIC LANE-MARKING PAINT, FACTORY MIXED, QUICK-DRYING, AND NON-BLEEDING.
COLOR: YELLOW

I) DO NOT APPLY TRAFFIC AND LANE MARKING PAINT UNTIL LAYOUT AND PLACEMENT HAS BEEN VERIFIED WITH ARCHITECT/ENGINEER.

II) APPLY PAINT WITH MECHANICAL EQUIPMENT TO PRODUCE UNIFORM STRAIGHT EDGES. APPLY IN TWO COATS AT MANUFACTURER'S RECOMMENDED RATES.

8. FIELD QUALITY CONTROL

A. TESTING AND INSPECTION SERVICE:

I) OWNER SHALL EMPLOY A TESTING LABORATORY TO PERFORM PAVEMENT TESTING AND INSPECTION SERVICE FOR QUALITY CONTROL DURING PAVING OPERATIONS.

II) TESTING SERVICE SHALL HAVE REPRESENTATIVE PRESENT TO OBSERVE AND PERFORM TESTS AT ALL TIMES PAVING WORK IS IN PROGRESS.

B. GENERAL: TESTING SERVICE REPRESENTATIVE SHALL TAKE A MINIMUM OF TWO SAMPLES PER LIFT OF BITUMINOUS AGGREGATE MIX EACH DAY BEFORE PAVING OPERATION. LABORATORY TEST SHALL BE PERFORMED ON THESE SAMPLES TO DETERMINE AGGREGATE GRADATION AND ASPHALT CONTENT.

I) TEST IN-PLACE COMPACTED BITUMINOUS AGGREGATE MIX COURSES FOR COMPLIANCE WITH REQUIREMENTS FOR THICKNESS, DENSITY AND AIR VOIDS AND SURFACE SMOOTHNESS. REPAIR OR REMOVE AND REPLACE UNACCEPTABLE PAVING AS DIRECTED BY ENGINEER.

II) A TEST SECTION AT A MINIMUM SIZE OF 100'X12' SHALL BE PLACED AT A LOCATION AS DIRECTED BY THE COUNTY PRIOR TO FULL PRODUCTION FOR EACH TYPE OF MIX. THE TEST SECTION SHALL BE COMPACTED TO DETERMINE A TARGET DENSITY FOR THE REMAINDER OF THE PAVEMENT.

C. THICKNESS: IN-PLACE COMPACTED THICKNESS WILL NOT BE ACCEPTABLE IF EXCEEDING FOLLOWING ALLOWABLE VARIATION FROM REQUIRED THICKNESS:

AGGREGATE BASE COURSE: ½", PLUS OR MINUS
BASE COURSE: ½", PLUS OR MINUS
BINDER COURSE: ¼", PLUS OR MINUS
SURFACE COURSE: ¼", PLUS OR MINUS

I) A MINIMUM OF TWO PAVEMENT CORES PER COMPACTED LIFT SHALL BE TAKEN. CORES ARE TO BE TAKEN AT LOCATIONS AND AT TIMES OF DAY AS DIRECTED BY THE TESTING SERVICE. THE FOLLOWING TESTS SHALL BE PERFORMED BY THE TESTING SERVICE, ON EACH PAVEMENT CORE:

II) A TEST SECTION AT A MINIMUM SIZE OF 100'X12' SHALL BE PLACED AT A LOCATION AS DIRECTED BY THE COUNTY PRIOR TO FULL PRODUCTION FOR EACH TYPE OF MIX. THE TEST SECTION SHALL BE COMPACTED TO DETERMINE A TARGET DENSITY OF THE REMAINDER OF THE PAVEMENT.

D. PAVEMENT THICKNESS
DENSITY
AIR VOIDS

I) TESTING SERVICE SHALL SUBMIT CERTIFIED RESULTS TO THE OWNER AND ARCHITECT/ENGINEER WITHIN 72 HOURS AFTER TESTS ARE MADE, WITH THEIR COMMENTS AND RECOMMENDATIONS FOR ACTION.

II) PAVEMENT WHICH FAILS TO COMPLY WITH APPROVED JOB MIX FORMULA SHALL BE REPLACED AS DIRECTED BY THE ARCHITECT/ENGINEER.

E. SURFACE SMOOTHNESS: TEST FINISHED SURFACE FOR SMOOTHNESS, USING 10' STRAIGHTEDGE APPLIED PARALLEL WITH, AND AT RIGHT ANGLES TO CENTERLINE OF PAVED AREA. SURFACE WILL NOT BE ACCEPTABLE IF EXCEEDING THE FOLLOWING TOLERANCES FOR SMOOTHNESS.

AGGREGATE BASE COURSE SURFACE:1/4"
BASE COURSE SURFACE: 1/4"
BINDER COURSE SURFACE: 1/8"
WEARING COURSE SURFACE: 1/8"

I) CHECK SURFACED AREAS AT INTERVALS AS DIRECTED BY TESTING SERVICE.

F. DENSITY TESTS: DENSITY TESTS SHALL BE MADE AT EACH LIFT. TEST SHALL BE AS FOLLOWS:

I) TESTS WILL BE REQUIRED AT VARIOUS TIMES AND LOCATIONS FOR SUBGRADE AND BASE COURSES FOR ASPHALT PAVING AREAS.

G. TESTING SERVICE SHALL SUBMIT CERTIFIED RESULTS TO THE OWNER AND ENGINEER WITHIN 72 HOURS AFTER TESTS ARE MADE WITH THEIR COMMENTS AND RECOMMENDATIONS FOR ACTION.

I) SUBGRADE SHALL BE PREPARED IN ACCORDANCE WITH THE MOST CURRENT I.N.D.O.T. STANDARD SPECIFICATION. NO TRAFFIC SHALL BE PERMITTED ON THE PREPARED SUBGRADE PRIOR TO PAVING.

II) SEE SITE GRADING, UNDER THE 'EARTHWORK' SECTION FOR ADDITIONAL COMPACTION REQUIREMENTS.

9. APPLICATION

A. GRADING: DO ANY NECESSARY GRADING IN ADDITION TO THAT PERFORMED IN ACCORDANCE WITH EARTHWORK SECTION TO BRING SUBGRADES, AFTER FINAL COMPACTION, TO THE REQUIRED GRADES AND SECTIONS FOR SITE IMPROVEMENTS.

B. PREPARATION OF SUBGRADE: REMOVE SPONGY AND OTHERWISE UNSUITABLE MATERIAL AND REPLACE WITH STABLE MATERIAL. NO TRAFFIC WILL BE ALLOWED ON PREPARED SUBGRADE PRIOR TO PAVING.

C. COMPACTION OF SUBGRADE: THE FIRST 6 INCHES BELOW THE SUBGRADE SHALL BE COMPACTED TO AT LEAST 100% OF THE MAXIMUM DRY DENSITY AS DETERMINED BY THE PROVISIONS OF AASHO T-99. WATER SHALL BE PREVENTED FROM STANDING ON THE COMPACTED SUBGRADE.

D. UTILITY STRUCTURES: CHECK FOR CORRECT ELEVATION OF ALL MANHOLE COVERS, VALVE BOXES AND SIMILAR STRUCTURES LOCATED WITHIN AREAS TO BE PAVED, AND MAKE, OR HAVE MADE, ANY NECESSARY ADJUSTMENTS IN SUCH STRUCTURES.

E. PLACING CONCRETE

1. SUBGRADE: PLACE CONCRETE ONLY ON A MOIST, COMPACTED SUBGRADE OR BASE FREE FROM LOOSE MATERIAL. PLACE NO CONCRETE ON A MUDDY OR FROZEN SUBGRADE.
2. FORMS: ALL FORMS SHALL BE FREE FROM WARP, TIGHT ENOUGH TO PREVENT LEAKAGE AND SUBSTANTIAL ENOUGH TO MAINTAIN THEIR SHAPE AND POSITION WITHOUT SPRINGING OR SETTLING, WHEN CONCRETE IS PLACED. FORMS SHALL BE CLEAN AND SMOOTH IMMEDIATELY BEFORE CONCRETING.
3. PLACING CONCRETE: CONCRETE SHALL BE DEPOSITED SO AS TO REQUIRE AS LITTLE REHANDLING AS PRACTICABLE. WHEN CONCRETE IS TO BE PLACED AT AN ATMOSPHERIC TEMPERATURE OF 35 DEGREES F. OR LESS, THE MOST CURRENT I.N.D.O.T. STANDARD SPECIFICATIONS SHALL BE FOLLOWED.

F. CONCRETE CURB

1. EXPANSION JOINTS: SHALL BE 1/2 INCH THICK PREMOULDED AT ENDS OF ALL RETURNS AND AT A MAXIMUM SPACING OF 100 FEET.
2. CONTRACTION JOINTS UNLESS OTHERWISE PROVIDED, CONTRACTION JOINTS SHALL BE SAWED JOINTS SPACED 10 FEET ON CENTER.
3. FINISH: TAMP AND SCREED CONCRETE AS SOON AS PLACED, AND FILL ANY HONEY COMBED PLACES. FINISH SQUARE CORNERSTONE 1/4 INCH RADIUS AND OTHER CORNERS TO RADII SHOWN.

G. CONCRETE WALKS AND EXTERIOR STEPS

1. SLOPES: PROVIDE ¼ INCH PER FOOT CROSS SLOPE. MAKE ADJUSTMENTS ON SLOPES AT WALK INTERSECTIONS AS NECESSARY TO PROVIDE PROPER DRAINAGE.
2. DIMENSIONS: WALKS AND STEPS SHALL BE ONE COURSE CONSTRUCTION AND OF WIDTHS AND DETAILS SHOWN ON THE DRAWINGS.
3. FINISH: SCREED CONCRETE AND TROWEL WITH A STEEL TROWEL TO A HARD DENSE SURFACE AFTER SURFACE WATER HAS DISAPPEARED. APPLY MEDIUM BROOM FINISH AND SCRIBE TRANSVERSE JOINTS AT 6 FOOT SPACING. PROVIDE ½ INCH EXPANSION JOINTS WHERE SIDEWALKS INTERSECT, AND AT A MAXIMUM SPACING OF 48 FEET BETWEEN EXPANSION JOINTS.

H. CURING CONCRETE FOR WALKS AND CURBS: EXCEPT AS OTHERWISE SPECIFIED, CURE ALL CONCRETE BY ONE OF THE METHODS DESCRIBED IN THE MOST CURRENT I.N.D.O.T. STANDARD SPECIFICATION.

I. BITUMINOUS PAVEMENT: HOT MIX ASPHALT PAVEMENT SHALL BE AS SPECIFIED IN THE MOST CURRENT I.N.D.O.T. STANDARD SPECIFICATION. PAVING WILL NOT BE PERMITTED DURING UNFAVORABLE WEATHER OR THEN THE TEMPERATURE IS 40 DEGREES F. AND FALLING.

J. COMPACTED AGGREGATE SUBBASE: THE THICKNESS SHOWN ON THE DRAWINGS IS THE MINIMUM THICKNESS OF THE FULL COMPACTED SUBBASE. COMPACTION SHALL BE ACCOMPLISHED BY ROLLING WITH A SMOOTH WHEELED ROLLER WEIGHING 8 TO 10 TONS. COMPACT TO 95% COMPACTION USING STANDARD TESTING PROCEDURES. ALONG CURBS, HEADERS AND WALLS AND AT ALL PLACES NOT ACCESSIBLE TO THE ROLLER, THE AGGREGATE MATERIAL SHALL BE TAMPED WITH MECHANICAL TAMPERS OR WITH APPROVED HAND TAMPERS.

K. CONCRETE RAMPS

1. CONCRETE RAMPS FOR THE DISABLED SHALL BE REQUIRED AS SPECIFIED IN THE PLANS AND SHALL CONFORM WITH CURRENT SPECIFICATIONS ESTABLISHED BY THE AMERICAN DISABILITIES ACT (ADA), SECTION 4.7, "CURB RAMPS."
2. THE CONCRETE RAMP SHALL BE FLUSH AND FREE OF ABRUPT CHANGES WITH SIDEWALKS, GUTTERS OR STREETS, AND PROVIDE A MAXIMUM SLOPE OF 1:12.
3. THE MINIMUM WIDTH OF A CONCRETE RAMP SHALL BE (48) INCHES EXCLUSIVE OF FLARED SIDES.
4. SIDES OF CONCRETE RAMPS SHALL HAVE FLARED SIDES AS SHOWN IN THE PLANS.

STORM SEWER SYSTEMS

1. SCOPE OF WORK

A. THE WORK UNDER THIS SECTION INCLUDES ALL STORM SEWERS, STORM WATER INLETS, AND RELATED ITEMS, INCLUDING EXCAVATING AND BACKFILLING NECESSARY TO COMPLETE THE WORK SHOWN ON THE DRAWINGS.

B. IN THE CASE OF ANY CONFLICTS WITH THESE SPECIFICATIONS AND LOCAL, STATE, FEDERAL SPECIFICATIONS THE MORE STRINGENT SHALL APPLY.

2. STORM SEWER CONSTRUCTION

A. STORM SEWERS

1. STORM SEWER STRUCTURES SHALL COMPLY WITH CURRENT SPECIFICATIONS OF THE TOWN OF FRANKLIN PLANNING AND ALL OTHER RESPONSIBLE AGENCIES IN RESPECT TO DESIGN AND QUALITY OF CONSTRUCTION.
2. ALL STORM SEWER CONSTRUCTION INSIDE PUBLIC RIGHT-OF-WAY, EITHER EXISTING OR TO BE DEDICATED, SHALL BE IN ACCORDANCE WITH THE MOST CURRENT I.N.D.O.T. STANDARD SPECIFICATION.
3. WHERE REINFORCED CONCRETE PIPE IS SHOWN ON THE CONSTRUCTION PLANS, IT SHALL BE IN ACCORDANCE WITH A.S.T.M. C-76 CLASS III WALL "C" UNLESS OTHERWISE SPECIFIED ON THE PLANS.
4. WHERE CORRUGATED METAL PIPE IS SHOWN ON THE CONSTRUCTION PLANS, IT SHALL BE 14 GAUGE ALUMINIZED UNLESS OTHERWISE SPECIFIED AND SHALL HAVE THE CONNECTING BANDS AND SEALS AS SPECIFIED BY THE MANUFACTURER. C.M.P. SHALL BE ALUMINIZED PIPE IN ACCORDANCE WITH A.S.T.M. A-444.
5. MANHOLES, CATCH BASINS AND INLETS SHALL BE PRECAST CONCRETE.
   A. IF THE CONTRACTOR ELECTS TO USE ALTERNATE PRECAST STRUCTURES, HE SHALL SUBMIT SHOP DRAWINGS TO THE ENGINEER PRIOR TO ANY CONSTRUCTION.
6. PRECAST CONCRETE AND STEEL FOR MANHOLES AND INLETS SHALL BE IN ACCORDANCE WITH A.S.T.M. C-478.
7. CASTINGS SHALL BE AS SHOWN ON THE DETAIL SHEET(S) FOR MANUFACTURER, TYPE AND MODEL NUMBER.
8. GRANULAR BACKFILL SHALL BE REQUIRED UNDER ALL PAVEMENT AREAS AND TRENCHES WITHIN FIVE(5) FEET OF THE EDGE OF PAVEMENT.
9. ALL TRENCHES UNDER PAVEMENT SHALL BE COMPACTED TO 95 PERCENT MODIFIED PROCTOR.

3. APPLICATION

A. PERMITS AND CODES: THE INTENT OF THIS SECTION OF THE SPECIFICATIONS IS THAT THE CONTRACTOR'S BID ON THE WORK COVERED HEREIN SHALL BE BASED UPON THE DRAWINGS AND SPECIFICATIONS BUT THAT THE WORK SHALL COMPLY WITH ALL APPLICABLE CODES AND REGULATIONS AS AMENDED BY ANY WAIVERS. THE CONTRACTOR SHALL FURNISH ALL BONDS NECESSARY TO GET PERMITS FOR CUTS AND CONNECTIONS TO EXISTING SEWERS.

B. LOCAL STANDARDS: THE TERM "LOCAL STANDARDS" AS USED HEREIN MEANS THE STANDARDS OF DESIGN AND CONSTRUCTION OF THE RESPECTIVE MUNICIPAL DEPARTMENT OR UTILITY COMPANY.

C. EXISTING IMPROVEMENTS: THE CONTRACTOR SHALL MAINTAIN IN OPERATING CONDITION ALL ACTIVE UTILITIES, SEWERS AND OTHER DRAINS ENCOUNTERED IN THE SEWER INSTALLATION. THE CONTRACTOR SHALL REPAIR TO THE SATISFACTION OF THE OWNER ANY DAMAGE TO EXISTING ACTIVE IMPROVEMENTS.

D. WORKMANSHIP: THIS WORK SHALL CONFORM TO ALL LOCAL, STATE AND NATIONAL CODES AND TO BE APPROVED BY ALL LOCAL AND STATE AGENCIES HAVING JURISDICTION.

E. TRENCHING: LAY ALL PIPE IN OPEN TRENCHES, EXCEPT WHEN THE LOCAL AUTHORITY GIVES WRITTEN PERMISSION FOR TUNNELING. OPEN THE TRENCH SUFFICIENTLY AHEAD OF PIPE-LAYING TO REVEAL ANY OBSTRUCTIONS. THE MIN. WIDTH OF TRENCH SHALL BE 1.25 TIMES THE OUTSIDE DIA. OF PIPE. SHEET AND BRACE TRENCH AS NECESSARY TO PROTECT WORKMEN AND ADJACENT STRUCTURES. ALL TRENCHING TO COMPLY WITH OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION STANDARDS. KEEP TRENCHES FREE FROM WATER WHILE CONSTRUCTION IS IN PROGRESS. UNDER NO CIRCUMSTANCES SHALL PIPE OR APPURTENANCES BE LAID IN STANDING WATER. CONDUCT THE DISCHARGE FROM TRENCH DE-WATERING TO DRAINS OR NATURAL DRAINAGE CHANNELS.

F. SPECIAL SUPPORTS: WHENEVER, IN THE OPINION OF THE ENGINEER, THE SOIL AT OR BELOW THE PIPE GRADE IS UNSUITABLE FOR SUPPORTING SEWERS AND APPURTENANCES SPECIFIED IN THIS SECTION, SUCH SPECIAL SUPPORT, IN ADDITION TO THOSE SHOWN OR SPECIFIED, SHALL BE PROVIDED AS THE ENGINEER MAY DIRECT, AND THE CONTRACT WILL BE ADJUSTED.

G. BACKFILLING: BACKFILL SHALL BE PLACED AS SHOWN IN THE PLANS. NOTE THAT PVC & HDPE PIPE SHALL BE COVERED WITH 12" MINIMUM OF #8 STONE. COMPACT THIS BACKFILL THOROUGHLY, TAKING CARE NOT TO DISTURB THE PIPE. BACKFILL UNDER AND WITHIN 5 FEET OF WALKS, PARKING AREAS, DRIVEWAYS AND STREETS SHALL BE "B" BORROW OR EQUIVALENT GRANULAR MATERIAL ONLY AND THOROUGHLY COMPACTED BY APPROVED METHODS.

H. MANHOLE INVERTS: CONSTRUCT MANHOLE FLOW CHANNELS OF CONCRETE SEWER PIPE OR BRICK, SMOOTHLY FINISHED AND OF SEMICIRCULAR SECTION CONFORMING TO THE INSIDE DIAMETER OF THE CONNECTING SEWERS. MAKE CHANGES IN SIZE OR GRADE GRADUALLY AND CHANGES INDIRECTION BY TRUE CURVES. PROVIDE SUCH CHANNELS FOR ALL CONNECTING SEWERS AT EACH MANHOLE.

I. SUBDRAINS: ALL SUBDRAINS SHALL BE OF THE SIZE SHOWN ON THE PLANS AND SHALL BE CONSTRUCTED TO THE GRADES SHOWN. ALL DRAINS CONSTRUCTED OFF-SITE AS PART OF THE OUTLET DRAIN WILL BE LOCATED AS SHOWN.

J. UTILITIES: IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO VERITY ALL EXISTING UTILITIES AND CONDITIONS PERTAINING TO HIS WORK. IT SHALL ALSO BE THE CONTRACTOR'S RESPONSIBILITY TO CONTACT THE OWNERS OF THE VARIOUS UTILITIES BEFORE WORK IS STARTED. THE CONTRACTOR SHALL NOTIFY IN WRITING THE OWNER AND THE ENGINEER OF ANY CHANGES, ERRORS OR OMISSIONS FOUND ON THESE PLANS OR IN THE FIELD BEFORE WORK IS STARTED OR RESUMED.

WATER LINE SYSTEM

1. SCOPE OF WORK

A. THE WORK UNDER THIS SECTION INCLUDES ALL WATER MAIN, FIRE HYDRANTS, SERVICES AND RELATED ITEMS, INCLUDING EXCAVATING AND BACKFILLING NECESSARY TO COMPLETE THE WORK SHOWN ON THE DRAWINGS.

2. MATERIALS

A. ALL MATERIALS SHALL CONFORM TO ALL LOCAL, STATE, AND NATIONAL CODES AND SHALL BE APPROVED BY ALL LOCAL AND STATE AGENCIES HAVING JURISDICTION.

3. APPLICATION

A. PERMITS AND CODES: THE INTENT OF THIS SECTION OF THE SPECIFICATIONS IS THAT THE CONTRACTOR'S BID ON THE WORK COVERED HEREIN SHALL BE BASED UPON THE DRAWINGS AND SPECIFICATIONS BUT THAT THE WORK SHALL COMPLY WITH ALL APPLICABLE CODES AND REGULATIONS AS AMENDED BY ANY WAIVERS. THE CONTRACTOR SHALL FURNISH ALL BONDS NECESSARY TO GET PERMITS FOR CUTS AND CONNECTIONS TO EXISTING WATER MAINS.

B. LOCAL STANDARDS: THE TERM "LOCAL STANDARDS" AS USED HEREIN MEANS THE STANDARDS OF DESIGN AND CONSTRUCTION OF THE RESPECTIVE MUNICIPAL DEPARTMENT OR UTILITY COMPANY.

C. EXISTING IMPROVEMENTS: THE CONTRACTOR SHALL MAINTAIN IN OPERATING CONDITION ALL ACTIVE UTILITIES, SEWERS AND OTHER DRAINS ENCOUNTERED IN THE WATER LINE INSTALLATION. THE CONTRACTOR SHALL REPAIR TO THE SATISFACTION OF THE OWNER ANY DAMAGE TO EXISTING ACTIVE IMPROVEMENTS.

D. WORKMANSHIP: THIS WORK SHALL CONFORM TO ALL LOCAL, STATE AND NATIONAL CODES AND TO BE APPROVED BY ALL LOCAL AND STATE AGENCIES HAVING JURISDICTION. THIS INCLUDES ALL REQUIRED CLEANING AND TESTING PROCEDURES REQUIRED BY THE STATE AND LOCAL AGENCIES.

E. TRENCHING: LAY ALL PIPE IN OPEN TRENCHES, EXCEPT WHEN THE LOCAL AUTHORITY GIVES WRITTEN PERMISSION FOR TUNNELING. OPEN THE TRENCH SUFFICIENTLY AHEAD OF PIPE-LAYING TO REVEAL ANY OBSTRUCTIONS. THE MIN. WIDTH OF TRENCH SHALL BE 1.25 TIMES THE OUTSIDE DIA. OF PIPE. SHEET AND BRACE TRENCH AS NECESSARY TO PROTECT WORKMEN AND ADJACENT STRUCTURES. ALL TRENCHING TO COMPLY WITH OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION STANDARDS. KEEP TRENCHES FREE FROM WATER WHILE CONSTRUCTION IS IN PROGRESS. UNDER NO CIRCUMSTANCES SHALL PIPE OR APPURTENANCES BE LAID IN STANDING WATER. CONDUCT THE DISCHARGE FROM TRENCH DE-WATERING TO DRAINS OR NATURAL DRAINAGE CHANNELS.

F. SPECIAL SUPPORTS: WHENEVER, IN THE OPINION OF THE ENGINEER, THE SOIL AT OR BELOW THE PIPE GRADE IS UNSUITABLE FOR SUPPORTING PIPE AND APPURTENANCES SPECIFIED IN THIS SECTION, SUCH SPECIAL SUPPORT, IN ADDITION TO THOSE SHOWN OR SPECIFIED, SHALL BE PROVIDED AS THE ENGINEER MAY DIRECT, AND THE CONTRACT WILL BE ADJUSTED.

G. BACKFILLING: BACKFILL SHALL BE PLACED AS SHOWN IN THE PLANS. NOTE THAT PVC & HDPE PIPE SHALL BE COVERED WITH 12" MINIMUM OF #8 STONE. COMPACT THIS BACKFILL THOROUGHLY, TAKING CARE NOT TO DISTURB THE PIPE. BACKFILL UNDER AND WITHIN 5 FEET OF WALKS, PARKING AREAS, DRIVEWAYS AND STREETS SHALL BE "B" BORROW OR EQUIVALENT GRANULAR MATERIAL ONLY AND THOROUGHLY COMPACTED BY APPROVED METHODS.

H. UTILITIES: IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY ALL EXISTING UTILITIES AND CONDITIONS PERTAINING TO HIS WORK. IT SHALL ALSO BE THE CONTRACTOR'S RESPONSIBILITY TO CONTACT THE OWNERS OF THE VARIOUS UTILITIES BEFORE WORK IS STARTED. THE CONTRACTOR SHALL NOTIFY IN WRITING THE OWNER AND THE ENGINEER OF ANY CHANGES, ERRORS OR OMISSIONS FOUND ON THESE PLANS OR IN THE FIELD BEFORE WORK IS STARTED OR RESUMED.

SANITARY SEWER SYSTEMS

1. SCOPE OF WORK

A. THE WORK UNDER THIS SECTION INCLUDES ALL SANITARY SEWERS, MANHOLES, CLEANOUTS AND RELATED ITEMS INCLUDING EXCAVATING AND BACKFILLING, NECESSARY TO COMPLETE THE WORK SHOWN IN THE DRAWINGS, STARTING OUTSIDE THE BUILDING WALLS. THE END OF SEWERS SHALL BE TIGHTLY PLUGGED OR CAPPED AT THE TERMINAL POINTS, ADJACENT TO THE BUILDING DRAIN AS SPECIFIED IN THE PLUMBING SPECIFICATIONS AND/OR ARCHITECTURAL DRAWINGS.

2. MATERIALS

A. SANITARY SEWERS

1. ALL GRAVITY PLASTIC SEWER PIPE FITTINGS SHALL CONFORM TO ASTM D3034 WITH A CELL CLASSIFICATION OF 12454-B OR 12454-C. FLEXIBLE GASKETED COMPRESSION JOINTS SHALL BE USED FOR PVC & PVC TRUSS PIPE. NO SOLVENT CEMENT JOINTS SHALL BE ALLOWED.
2. ABS SEWER PIPE AND FITTINGS SHALL CONFORM TO ASTM D2680 LATEST REVISION.
3. TRACER WIRE SHALL BE INSTALLED WITH ALL NEW SANITARY PIPE.

3. APPLICATION

A. PERMITS AND CODES:
THE INTENT OF THIS SECTION OF THE SPECIFICATIONS IS THAT THE CONTRACTOR'S BID ON THE WORK COVERED HEREIN SHALL BE BASED UPON THE DRAWINGS AND SPECIFICATIONS BUT THAT THE WORK SHALL COMPLY WITH ALL APPLICABLE CODES AND REGULATIONS AS AMENDED BY ANY WAIVERS. CONTRACTOR SHALL FURNISH ALL BONDS NECESSARY TO GET PERMITS FOR CUTS AND CONNECTIONS TO EXISTING SEWERS.

B. LOCAL STANDARDS:
THE TERM "LOCAL STANDARDS" AS USED HEREIN MEANS THE STANDARDS OF DESIGN AND CONSTRUCTION OF THE RESPECTIVE MUNICIPAL DEPARTMENT OR UTILITY COMPANY.

C. EXISTING IMPROVEMENTS:
THE CONTRACTOR SHALL MAINTAIN IN OPERATING CONDITION ALL ACTIVE UTILITIES, SEWERS AND OTHER DRAINS ENCOUNTERED IN THE SEWER INSTALLATION. THE CONTRACTOR SHALL REPAIR TO THE SATISFACTION OF THE OWNER ANY DAMAGE TO EXISTING ACTIVE IMPROVEMENTS.

D. WORKMANSHIP:
THIS WORK SHALL CONFORM TO ALL LOCAL, STATE AND NATIONAL CODES AND TO BE APPROVED BY ALL LOCAL AND STATE AGENCIES HAVING JURISDICTION.

E. TRENCHING:
LAY ALL PIPE IN OPEN TRENCHES, EXCEPT WHEN THE LOCAL AUTHORITY GIVES WRITTEN PERMISSION FOR TUNNELING. OPEN THE TRENCH SUFFICIENTLY AHEAD OF PIPE-LAYING TO REVEAL ANY OBSTRUCTIONS. THE MIN. WIDTH OF TRENCH SHALL BE 1.25 TIMES THE OUTSIDE DIA. PLUS 12 INCHES. SHEET AND BRACE TRENCH AS NECESSARY TO PROTECT WORKMEN AND ADJACENT STRUCTURES. ALL TRENCHING TO COMPLY WITH OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION STANDARDS. KEEP TRENCHES FREE FROM WATER WHILE CONSTRUCTION IS IN PROGRESS. UNDER NO CIRCUMSTANCES SHALL PIPE OR APPURTENANCES BE LAID IN STANDING WATER. CONDUCT THE DISCHARGE FROM TRENCH DE-WATERING TO DRAINS OR NATURAL DRAINAGE CHANNELS.

F. SPECIAL SUPPORTS:
WHENEVER, IN THE OPINION OF THE ENGINEER, THE SOIL AT OR BELOW THE PIPE GRADE IS UNSUITABLE FOR SUPPORTING SEWERS AND APPURTENANCES SPECIFIED IN THIS SECTION, SUCH SPECIAL SUPPORT, IN ADDITION TO THOSE SHOWN OR SPECIFIED, SHALL BE PROVIDED AS THE ENGINEER MAY DIRECT, AND THE CONTRACT WILL BE ADJUSTED.

G. BACKFILLING:
BACKFILL SHALL BE PLACED AS SHOWN IN THE PLANS. COMPACT THIS BACKFILL THOROUGHLY, TAKING CARE NOT TO DISTURB THE PIPE. BACKFILL UNDER AND WITHIN 5 FEET OF WALKS, PARKING AREAS, DRIVEWAYS AND STREETS SHALL BE GRANULAR MATERIAL ONLY AND THOROUGHLY COMPACTED BY APPROVED METHODS.

H. PLASTIC SEWER PIPE INSTALLATION:
PLASTIC SEWER PIPE SHALL BE INSTALLED IN ACCORDANCE WITH ASTM D2321 PER LATEST REVISION. PIPES SHALL BE TESTED AFTER THIRTY DAYS, USING A MANDREL THAT IS 95% OF THE INSIDE DIAMETER OF THE PIPE BEING TESTED. SAID MANDREL SHALL BE PULLED BY HAND THROUGH EACH PIPE SECTION TO ENSURE DEFLECTION IS LESS THAN ACCEPTABLE LIMITS.

I. STORM WATER CONNECTIONS:
NO ROOF DRAINS, FOOTING DRAINS AND/OR SURFACE WATER DRAINS MAY BE CONNECTED TO THE SANITARY SEWER SYSTEMS, INCLUDING TEMPORARY CONNECTIONS DURING CONSTRUCTION.

J. WATERLINE CROSSING:
WHERE WATER LINES AND SANITARY SEWERS CROSS AND WATER LINES CANNOT BE PLACED ABOVE THE SEWER WITH A MINIMUM OF 18 INCHES VERTICAL CLEARANCE, THE SEWER MUST BE CONSTRUCTED OF WATER WORKS GRADE DUCTILE IRON PIPE WITH MECHANICAL JOINTS WITHIN 10 FEET OF THE WATER LINE.

K. UTILITIES:
IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO VERITY ALL EXISTING UTILITIES AND CONDITIONS PERTAINING TO HIS WORK. IT SHALL ALSO BE THE CONTRACTOR'S RESPONSIBILITY TO CONTACT THE OWNERS OF THE VARIOUS UTILITIES BEFORE WORK IS STARTED. THE CONTRACTOR SHALL NOTIFY IN WRITING THE OWNER AND THE ENGINEER OF ANY CHANGES, ERRORS OR OMISSIONS FOUND ON THESE PLANS OR IN THE FIELD BEFORE WORK IS STARTED OR RESUMED.

L. SERVICE LATERALS:
INDIVIDUAL BUILDING LINES SHALL BE 6 INCHES IN DIAMETER AND OF MATERIAL EQUAL TO THAT SPECIFIED IN 2A OF THIS SECTION. SERVICE LINES SHALL BE CONNECTED TO THE MAIN SEWER AT LOCATIONS SHOWN IN THESE PLANS.

DIRECTORY PATH : R:\Active\Bemis Group\Wayne Street Townhomes\Design\CAD\Plans
FILENAME : 1000 SPECIFICATIONS.dwg
DATE/USER : 4/8/2021 9:05 AM / Kfigg

CROSSROAD ENGINEERS, PC
TRANSPORTATION & DEVELOPMENT CONSULTANTS
3417 SHERMAN DRIVE
BEECH GROVE, IN 46107
(317) 780-1555
CROSSROADENGINEERS.COM

SHEET 1000

SPECIFICATIONS

WAYNE STREET TOWNHOMES

JOB No.	.	DRAWN	DEP/KLF
CHECKED	GJI	DATE	APRIL 8, 2021
DESIGNED	CDM	APPR.	GJI

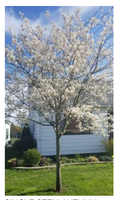
GREGORY J. ILKO
NO. 10300059

NO.	DATE	REVISIONS	BY	APPR.
9				
8				
7				
6				
5				
4				
3				
2				
1				

SHEET 1000

SUGAR MAPLE SHADE TREE

SINGLE STEM AUTUMN
BRILLIANCE SERVICEBERRY
GREEN FOLIAGE



SINGLE STEM AUTUMN
BRILLIANCE SERVICEBERRY
IN BLOOM

BOXWOOD GREEN VELVET

SONIC BLOOM WEIGELA

OAK SEDGE GROUND COVER

EMERALD GREEN ARBORVITAE

PLANTING LEGEND

A
2

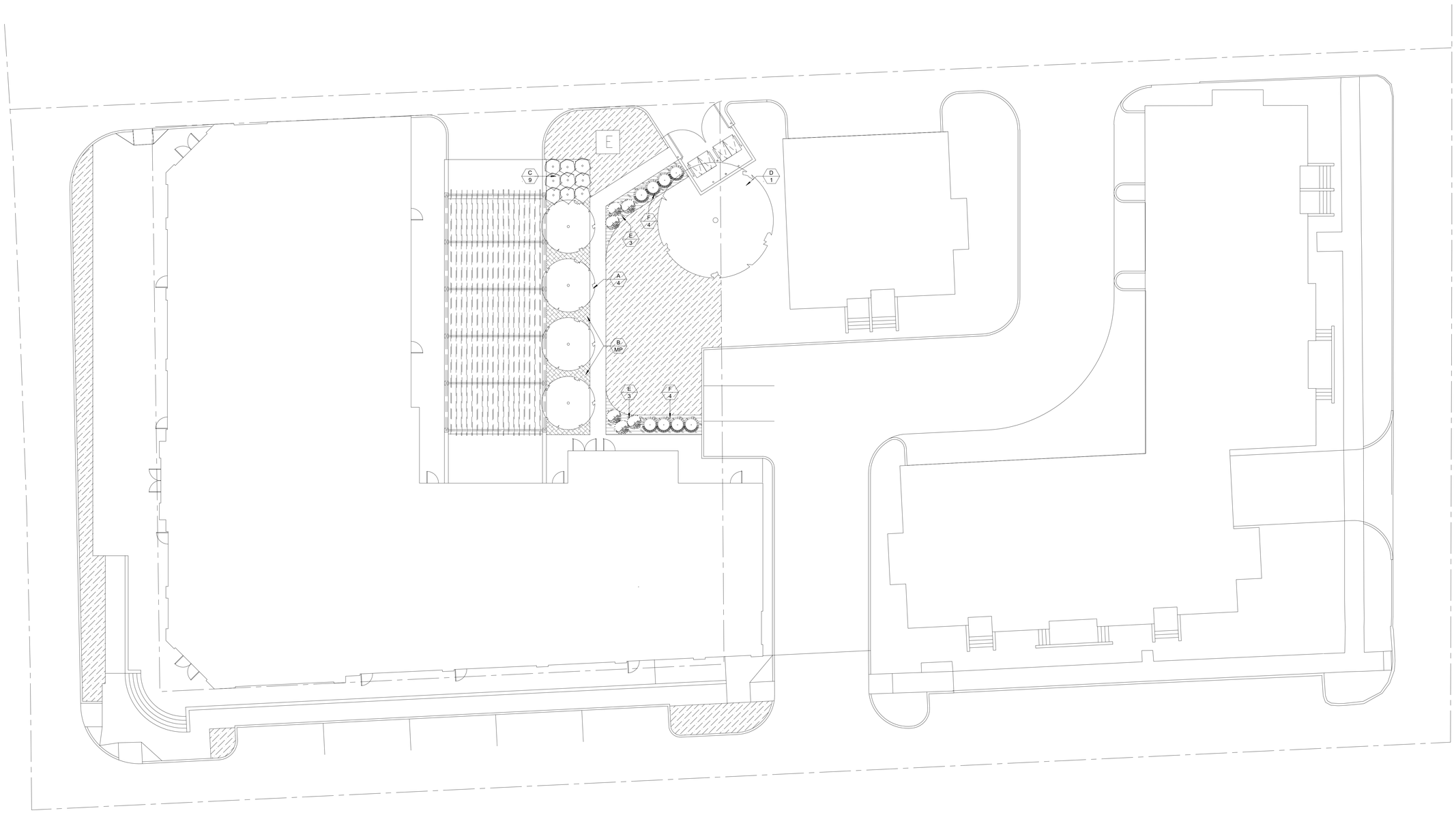
A = LETTER DESIGNATION
2 = SUGGESTED QUANTITY

	COMMON NAME:	BOTANICAL NAME:	MATURE SPREAD:	SPACING:
A 4	SINGLE STEM AUTUMN BRILLIANCE SERVICEBERRY	AMELANCHIER GRANDIFLORA "AUTUMN BRILLIANCE"	25'H x 15'W	15'
B MP	OAK SEDGE	CAREX PENSYLVANICA	20"H	MASS PLANTING
C 9	SONIC BLOOM WIEGELA	WEIGELA FLORIDA "BOKRASOPIN"	4'H x 4'W	4'
D 1	SUGAR MAPLE	ACER SACCHARUM	50'-70'H x 30'-50'W	SINGLE SPECIMEN
E 6	BOXWOOD 'GREEN VELVET'	BUXUS X "GREEN VELVET"	3'-4'H x 3'-4'W	4'
F 8	EMERALD GREEN ARBORVITAE	THUJA OCCIDENTALIS "EMERALD GREEN"	3'-4'	3'-4'

* REFER TO MANUFACTURER'S SPECIFICATIONS FOR NECESSARY SEED QUANTITY AND COVERAGE
** ALL PLANTINGS TO BE APPROPRIATE TO USDA HARDINESS ZONE 6A
*** MP = MASS PLANTING

GENERAL LANDSCAPE NOTES

1. DELIVER STOCK ONLY AFTER SOIL HAS BEEN PREPARED. SCHEDULE HARVESTING AND DELIVERY IN QUANTITIES SUITABLE FOR IMMEDIATE PLANTING UPON ARRIVAL. PLANT IMMEDIATELY; IF PLANTING CANNOT BE ACCOMPLISHED IMMEDIATELY, PROVIDE SHADE, PROTECT FROM WIND. PROTECT BALLS OR ROOTS FROM DYING BY COVERING AT ALL TIMES WITH MOIST SAW DUST, WOOD CHIPS, SHREDDED BARK, PEAT MOSS OR OTHER SIMILAR MULCHING MATERIAL.
2. SCHEDULE AND COORDINATE WITH WORK OF OTHER SECTIONS AND LOCAL SEASONS. LOCATE AND AVOID DAMAGE TO UNDERGROUND UTILITIES.
3. PLANT ONLY IN THAWED GROUND.
4. MULCH: REPLACE MULCH IN AREAS WHERE MULCH HAS BEEN DISPLACED AND SECURE AGAINST DISPLACEMENT. FOUR FOOT DIAMETER MULCH RING AROUND ALL NEW TREES UNLESS OTHERWISE NOTED. PLACE MULCH AT 4" THICKNESS MAX.
5. WATERING: WATER REGULARLY AND AT SUCH TIMES AND RATES NECESSARY FOR OPTIMUM GROWTH AND TO AVOID PUDDLING, RUNOFF OR EROSION.
6. FERTILIZING: AFTER ONE MONTH OF GROWTH, APPLY FERTILIZER IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS.
7. CONTROL GROWTH OF WEEDS: APPLY HERBICIDES IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS. REMEDY ANY DAMAGE RESULTING FROM USE OF HERBICIDES. DO NOT ALLOW FOOT OR VEHICULAR TRAFFIC OVER PLANTING BEDS OR LAWN PANELS.
8. ADJUST STAKES AND GUYS TO PROVIDE PROPER SUPPORT AND REPLANT TREES OR SHRUBS TO VERTICAL UPRIGHT AS NEEDED.
9. APPLY ENVIRONMENTALLY RESPONSIBLE INSECTICIDES OR FUNGICIDES IF NECESSARY TO PREVENT OR CORRECT INSECT INFESTATIONS OR DISEASE.
10. PLANTING SOIL: MIX NATIVE SOIL, TOP SOIL AND AMENDMENTS THOROUGHLY TO PROVIDE UNIFORM MIXTURE. CONFIRM SOIL WILL BE WELL DRAINED.
11. RIP-RAP EROSION CONTROL GEOTEXTILE TO BE USED AT ALL PLANTING BEDS.



1 A020 SITE PLAN
3/32" = 1'-0"

ROWLAND | DESIGN
ARCHITECTURE INTERIORS GRAPHICS

702 North Capitol Avenue
Indianapolis, Indiana 46204

p 317 636-3980
f 317 263-2073

www.rowlanddesign.com

OWNER

NEWKIRK SQUARE

PRELIMINARY
NOT FOR
CONSTRUCTION

NEWKIRK SQUARE
MIXED-USE

MAIN STREET
FRANKLIN, INDIANA

APRIL 8, 2021
'TAC' SUBMITTAL

NO.	DESCRIPTION	DATE

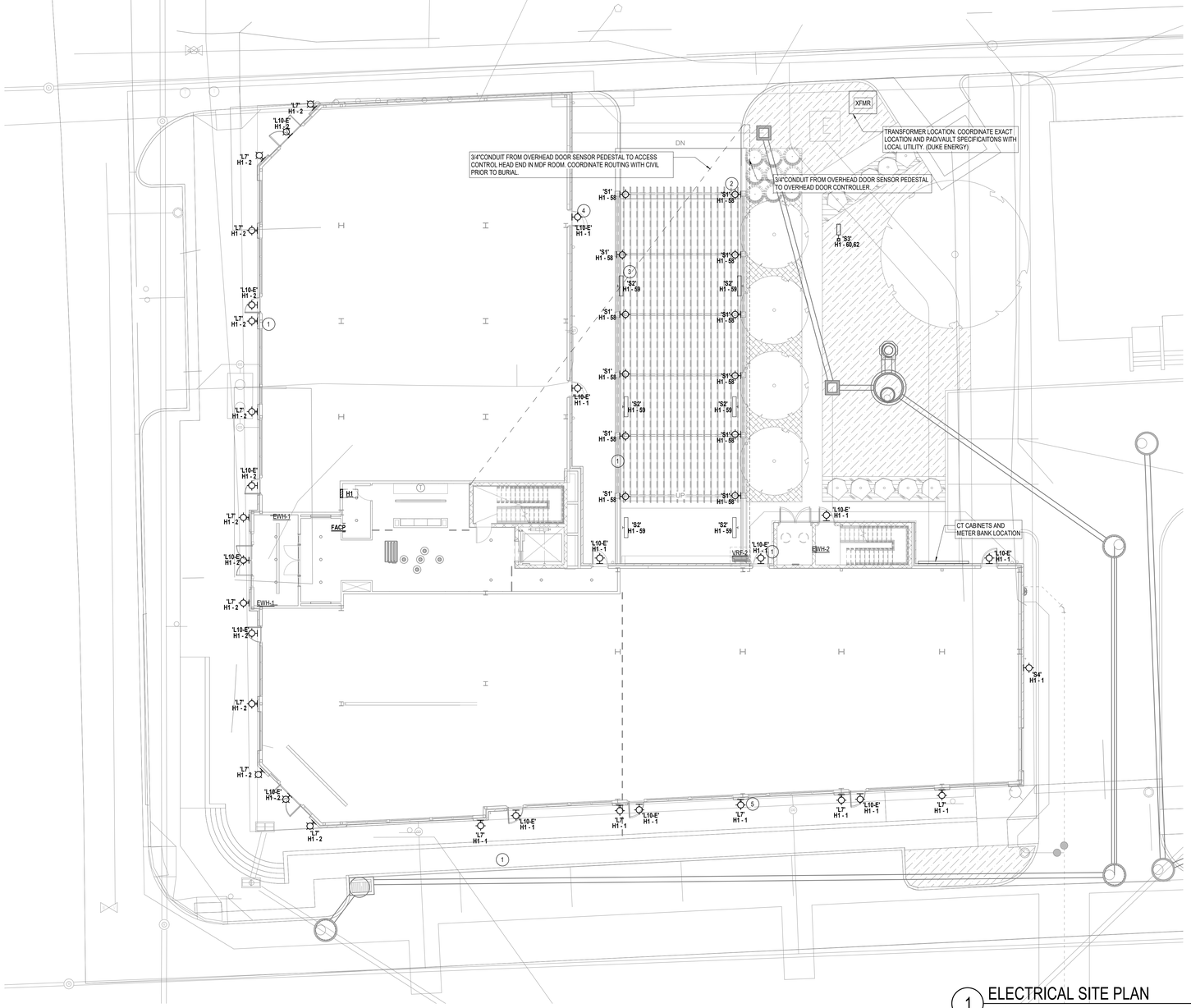
PROJECT NUMBER	20.036
SHEET ISSUE DATE	02/23/21
DRAWN BY	Author
CHECKED BY	Checker

ARCHITECTURAL
SITE/LANDSCAPE PLAN

A020

SITE LIGHTING FIXTURE SCHEDULE

FIXTURE TYPE	BASE MANUFACTURER	WATTAGE TOTAL	LAMP TYPE	VOLTAGE	MOUNT	DESCRIPTION
L7	TECH LIGHTING: GAGE 20 700OWGAG-830-20-D-XX-UNV-S	30	LED 1480LM 3000K	MVOLT	SURFACE	DECORATIVE 20" H CYLINDER WALL SCONCE WITH FROSTED ACRYLIC DIFFUSER. IP65 RATED.DIMMABLE. FINISH PER ARCHITECT. (EXTERIOR)
L10-E	STARTEK HYDRO BEAM: HYDROD-2-350-SD-35K-XX-WM-U-#EMB10	13	LED 1200LM 3500K	MVOLT	SURFACE	4"W X 24"L WALL MOUNTED LINEAR WITH IMPACT RESISTANT POLYCARBONATE DIFFUSE LENS. BATTERY BACK UP. FNISH PER ARCHITECT. (EXTERIOR)
S1	CONTECH: SQL3T-1-35K-MVD2-UD-X-M-XX	20	LED 2200LM 3500K	MVOLT	SURFACE	3.5" W X 11" H SQUARE CYLINDER WITH UP/DOWN LIGHT. 0-10V DIMMING, FINISH PER ARCHITECT. MEDIUM BEAM DISTRIBUTION. (EXTERIOR)
S2	FC LIGHTING: FCSL2040-UNV-35K-CRI85-8L-XX-TRS-XX	7	LED 700LM 3500K	MVOLT	RECESSED	13"W X 4.5"H DIE-CAST ALUMINIUM STEP LIGHT WITH HEAVY WALLED DIE-CASE FACEPLATE. IP68 RATED. TAMPER-RESISTANT SCREWS, CLEAR LOW IRON TEMPERED GLASS WITH DIFFUSED INTERNAL REFLECTOR. E.C. TO CONFIRM MOUNTING ACCESSORIES REQUIRED. (EXTERIOR GARAGE RAMP)
S3	COOPER LUMARK: PRV-PA1-A-7040-U-5WQ-XX-XX	54	LED 7100LM 4000K	MVOLT	20' POLE	POLE MOUNTED AREA LIGHT WITH TYPE 5 WIDE DISTRIBUTION. 0-10V DIMMING, DARK SKY APPROVED BUG B3-U0-G2. (EXTERIOR)
S4	COOPER LUMARK: PRV-PA1-A-7040-U-T2U-XX-XX-PRVWM-XX	54	LED 7100LM 4000K	MVOLT	SURFACE	WALL MOUNTED AREA LIGHT WITH TYPE 2 DISTRIBUTION. 0-10V DIMMING, DARK SKY APPROVED BUG B3-U0-G2. (EXTERIOR)
X3					SURFACE	EXTERIOR EXIT SIGN (ROOF)



1 ELECTRICAL SITE PLAN
1" = 10'-0"

GENERAL SHEET NOTES

A. COORDINATE INSTALLATION OF LIGHTING FIXTURES WITH ARCHITECTURAL REFLECTED CEILING PLANS, ARCHITECTURAL ELEVATIONS, MECHANICAL EQUIPMENT, DIFFUSERS, SUPPORTS, PIPING, DUCTWORK, STRUCTURAL AND CIVIL PLANS PRIOR TO ROUGH-IN AND INSTALLATION OF LIGHTS.
B. ALL MOUNTING HEIGHTS NOTED ON THE PLANS ARE TO THE BOTTOM OF THE FIXTURES UNLESS NOTED OTHERWISE.
C. LABEL ALL RELAYS AND POWER SUPPLIES (ON THE DEVICE OR ON THE BOX THEY ARE CONNECTED TO) WITH THE AREA THE DEVICES SERVES, THE BRANCH CIRCUIT IT CONTROLS AND THE DEVICE ADDRESS (IF APPLICABLE).
D. ALL WORK SHALL COMPLY WITH ALL NATIONAL, STATE AND LOCAL CODES AND ORDINANCES PERTAINING TO THE WORK IN THIS PROJECT.
E. EXPOSED CONDUIT SHALL BE RUN PARALLEL TO AND AT RIGHT ANGLES TO BUILDING LINES.
F. ALL EXTERIOR EQUIPMENT AND DEVICES SHALL BE WEATHER PROOF AND RAIN TIGHT.

SHEET PLAN NOTES

1 REFER TO EL SHEETS FOR BUILDING MOUNTED LIGHTING IN THESE AREAS.
2 MOUNT S1 FIXTURE TO PERGOLA STRUCTURE. REFER TO ARCHITECTURAL ELEVATIONS FOR MOUNTING HEIGHT. TYPICAL OF ALL S1 FIXTURES THIS SHEET.
3 S2 FIXTURES TO BE MOUNTED IN WALL TO ILLUMINATE RAMP TO PARKING GARAGE. COORDINATE MOUNTING HEIGHT WITH ARCHITECT PRIOR TO ROUGH-IN.
4 MOUNT L10-E FIXTURES ABOVE DOOR IN MULLION. CONFIRM LOCATION WITH ARCHITECT PRIOR TO ROUGH-IN.
5 MOUNT L7 FIXTURE AT 6'-6" A.F.G. TYPCAL ALL L7 FIXTURES.

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INDIANAPOLIS, IN | 317.781.6200
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OWNER

NEWKIRK SQUARE

PRELIMINARY NOT FOR CONSTRUCTION

NEWKIRK SQUARE MIXED-USE

MAIN STREET
FRANKLIN, INDIANA

MARCH 16, 2021
PROGRESS SET

NO.	DESCRIPTION	DATE

CDG PROJECT NUMBER	20133
SHEET ISSUE DATE	03/16/2021
DRAWN BY	KREG T. SMEAD
CHECKED BY	BARRY SIMPSON

SITE PLAN

ES101