# DEVELOPMENT PLAN FOR

# THE SHOPS at BROOKSIDE - BLOCK A PHASE III - NORTH BUILDING

SWC CR N 600 W & CR W 900 N, McCORDSVILLE IN 46055



	PLAN SHEET INDEX
C0.0 C2.0 C3.0 C4.0 C4.1 C4.2 C5.0 C7.0-C7.2 C9.0 L1.0 E101	TITLE SHEET SITE PLAN GRADING & DRAINAGE PLAN STORMWATER POLLUTION PREVENTION PLAN STORMWATER POLLUTION PREVENTION DETAILS STORMWATER POLLUTION PREVENTION NOTES UTILITY PLAN GENERAL DETAILS SPECIFICATIONS LANDSCAPE PLAN SITE LIGHTING PLAN (BY OTHERS)
TOPO	TOPOGRAPHIC SURVEY BY CROSSROAD ENGINEERS (03/11/2024)

REFERENCE STANDARDS/SPECIFICATIONS

TOWN OF MCCORDSVILLE CONSTRUCTION STANDARDS & SPECIFICATIONS (10 SHEETS)

## PROJECT DEVELOPER: BDC REALTY GROUP, LLC

6274 S Fox Chase Pendleton, Indiana 46064

## **ENGINEER:**



718 Adams Street, Suite E Carmel, Indiana 46032 Phone: (317) 810-1677 Email: bcross@civilsite.net

# ARCHITECT: INTEGRITY DESIGN, LLC

3128 Nichol Avenue Anderson, Indiana 46011 Ph: (765) 608-3001

## SURVEYOR:

Crossroad Engineers, P.C.
3417 Sherman Drive
Beech Grove, IN 46107
Contact: G.W. Charles, PE, PS
Phone: (317) 780-1555
Email: gwcharles@crossroadengineers.com





## LAND DESCRIPTION

BLOCK A IN THE VILLAGES OF BROOKSIDE SECTION 16 RECORDED AS INSTRUMENT NO. 2022-12878, PLAT CABINET D, PAGE 210 IN THE RECORDER'S OFFICE OF HANCOCK COUNTY, INDIANA.

#### **DEVELOPMENT SUMMARY**

PROPOSED USE: RETAIL-SMALL
BUILDING(s) GROSS SQUARE FOOTAGE: = 3,200± S.F.
TOTAL SITE AREA = 5.69± Ac.
OPEN SPACE AREA = x.xx± Ac. (xx% of TOTAL LOT AREA)
IMPERVIOUS AREA COVERAGE = x.xx± Ac. (xx%)
CURRENT ZONING = VILLAGES AT BROOKSIDE PUD-AMENDMENT

PARKING SPACES PROVIDED = 33
PARKING SPACES REQUIRED = 22 (1 PER EMPLOYEE + 1 / 3 SEATS)
TENANT SEATING = 42; 8 EMPLOYEES

ANTICIPATED CONSTRUCTION START/END DATE: JANUARY, 2026 / JULY 2026

## UTILITY CONTACTS

ALL DRAINAGE TILE NOTE

ALL DRAINAGE TILES ENCOUNTERED ON PROJECT
SITE WILL BE PROVIDED A POSITIVE OUTLET.

STANDARDS

THE TOWN OF McCORDSVILLE & INDOT STANDARDS SHALL BE INCORPORATED BY REFERENCE INTO THESE PLANS FOR CONSTRUCTION ACTIVITY THROUGHOUT THE SITE AND INDOT RIGHT-OF-WAY

## SPECIFICATIONS

NO ALTERNATE SPECIFICATIONS OR MATERIALS OR NEW MATERIALS MAY BE USED WITHOUT THE EXPRESS WRITTEN APPROVAL FROM THE TOWN OF PENDLETON PRIOR TO THE COMPLETION OF WORK.

Drainage & Streets:
Town of McCordsville - Engineering
6280 W 800 N
McCordsville, IN 46055
(317) 335-3604

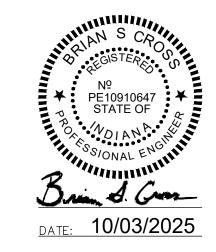
Electric / Telecom:
NineStar Connect - Rusty Hansen
2243 E Main St,
Greenfield, IN 46140
(317) 326-3131
KHansen@ninestarconnect.com

Natural Gas: Centerpoint Energy

Wastewater & Water:
Citizens Energy Group/CWA Authority, Inc.
2150 Dr. Martin Luther King Jr St
Indianapolis, IN 46202
Brad Hostetler - (317) 927-4351
bhostetler@citizensenergygroup.com

Streets: Town of McCordsville Hancock County Highway Department INDIANA DEPARTMENT OF TRANSPORTATION LATEST EDITION OF SPECIFICATIONS & STANDARDS TO BE USED DURING CONSTRUCTION WITH THESE PLAN DOCUMENTS

REVISION RECORD							
REV	DATE	DESCRIPTION		DES BY	APP BY		
1	11/04/25	TAC REVIEW REVISIONS		BSC	BSC		



CSG PROJECT NUMBER BRG.008

CO.O SHEET 1 OF 24

**DEVELOPER:** BDC REALTY GROUP, LLC 6274 SOUTH FOX CHASE PENDLETON, INDIANA 46064 ATTN: DAVE CRAVENS (765) 635-5559 **ENGINEER** CIVIL SITE GROUP, INC. 718 ADAMS STREET CARMEL, INDIANA 46032 (317) 810-1677

SURVEYOR: CROSSROAD ENGINEERS 3417 Sherman Drive Beech Grove, IN 46107 ATTN: G.W. Charles, PE, PS (317) 780-1555

#### **EXISTING CONDITIONS NOTE**

CONTRACTOR TO VERIFY ALL EXISTING CONDITIONS, INCLUDING UTILITIES AND DRAINAGE INFRASTRUCTURE BEFORE COMMENCING WITH CONSTRUCTION. CONTRACTOR TO NOTIFY ENGINEER OF ANY DISCREPANCIES.

HOOP RACK Submittal Sheet

#### TOPOGRAPHIC & BOUNDARY NOTE

ALL EXISTING HORIZONTAL AND VERTICAL INFORMATION HAS BEEN SHOWN PER A TOPOGRAPHIC SURVEY DATED 03/11/2024 PREPARED BY CROSSROAD ENGINEERG, P.C.; THEREFORE, CIVIL SITE GROUP, INC. CANNOT BE HELD RESPONSIBLE IF ACTUAL HORIZONTAL AND VERTICAL DATA IS DIFFERENT FROM THAT SHOWN ON THESE PLANS. CONTRACTOR IS RESPONSIBLE FOR FIELD VERIFICATION OF ALL EXISTING CONDITIONS PRIOR TO COMMENCING WITH CONSTRUCTION.

#### **GRADING & UTILITY NOTE**

CONTRACTOR TO VERIFY THE DEPTH AND LOCATION OF ALL EXISTING UTILITIES PRIOR TO COMMENCING CONSTRUCTION. PROPOSED DRIVEWAY CUTS MAY REQUIRE EXISTING UTILITY FACILITIES TO BE LOWERED AND/OR RELOCATED IN ORDER TO MAINTAIN MINIMUM STANDARDS OF COVER / VERTICAL SEPARATION, INCLUDING WATER GAS, POWER, AND TELECOM.

## FLOOD NOTE

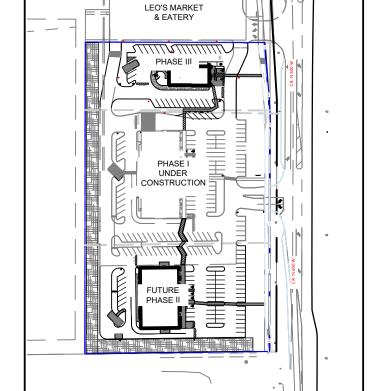
THIS LOT LIES ENTIRELY IN FLOOD HAZARD ZONE "X" AS SCALED FROM THE FLOOD INSURANCE RATE MAP (FIRM) FOR HANCOCK COUNTY, INDIANA, COMMUNITY NUMBER 180468, MAP NUMBER 18059C0016D, PANEL NUMBER 0016 D, DATED DECEMBER 4, 2007

REFERENCE NFIP FIRM MAP #18059C0016D, EFFECTIVE DATE: DECEMBER 4, 2007

## NOTE

REFER TO ARCHITECTURAL & FOUNDATION PLANS FOR ALL BUILDING DIMENSIONS.

#### ADA DECTABLE WARNING NOTE



( IN FEET )

1 inch = 20 ft.

**DEVELOPMENT SUMMARY** 

PROPOSED USE: RETAIL-SMALL BUILDING(s) GROSS SQUARE FOOTAGE: = 3,200± S.F. TOTAL SITE AREA = 5.69± Ac.

OPEN SPACE AREA = x.xx± Ac. (xx% of TOTAL LOT AREA)

IMPERVIOUS AREA COVERAGE = x.xx± Ac. (xx%) CURRENT ZONING = VILLAGES AT BROOKSIDE PUD-AMENDMENT

**REVISION RECORD** 

DESCRIPTION

TAC REVIEW; BLDG. BASE / D.T. PLANTINGS

PARKING SPACES PROVIDED = 33 PARKING SPACES REQUIRED = 22 (1 PER EMPLOYEE + 1/3 SEATS TENANT SEATING = 42; 8 EMPLOYEES

ANTICIPATED CONSTRUCTION START/END DATE: JANUARY, 2026 / JULY 2026

LEGEND: — R/W —

DATE

| 11/04/25

PROPERTY BOUNDARY OR R/W (REFER TO ALTA/NSPS SURVEY) SAWCUT LIMITS (WHERE NECESSARY-FOR UTILITY INSTALLATION)

# OF PARKING SPACES IN ROW

LIGHT DUTY ASPHALT PAVEMENT. SEE DETAIL 03/C7.0 1.5" - 110#/SYD. HMA BITUMINOUS SURFACE 9.5mm ON 2" - 330#/SYD. HMA BITUMINOUS INTERMEDIATE 19.0mm ON 6" COMPACTED AGGREGATE #53 BASE ON ENGR. APPROVED GEOGRID\*\* ON COMPACTED SUBGRADE OR TREATED SUBGRADE. \*\* DESIGNATES CONSTRUCTION ALTERNATE IF DETERMINED IS NEEDED AFTER RESULTS OF SUBGRADE PROOF ROLL

HEAVY DUTY ASPHALT PAVEMENT. SEE DETAIL 02/C7.0 1.5" - 110#/SYD. HMA BITUMINOUS SURFACE 9.5mm ON 3" - 330#/SYD. HMA BITUMINOUS INTERMEDIATE 19.0mm ON 8" COMPACTED AGGREGATE #53 BASE ON ENGR. APPROVED GEOGRID\*\* ON COMPACTED SUBGRADE OR TREATED SUBGRADE. \*\* DESIGNATES CONSTRUCTION ALTERNATE IF DETERMINED IS NEEDED AFTER RESULTS OF SUBGRADE PROOF ROLL

PROPOSED CONCRETE PAVEMENT. SEE DETAIL 01/C7.0

8" CONC. PAVEMENT ON SUBGRADE TREATMENT TYPE II - (6" COMPACTED COARSE AGGREGATE INDOT #53 STONE) ON COMPACTED SUBGRADE PROPOSED CONCRETE SIDEWALK

PROPOSED PAINTED DIAGONAL

## PLAN NOTES:

6" STRAIGHT CONC. CURB. SEE DETAIL 05/C7.0

1'-2" WIDE STRAIGHT CONC. CURB/WALK ALONG SOUTH BUILDING WALL 2'± WIDE STRAIGHT CONC. CURB/WALK ALONG NORTH BUILDING WALL 4" OR 6" CONC. FILLED BOLLARD PAINTED GLOSS BLACK AS DENOTED SEE DETAIL 17/C7.0

DERO HOOP BIKE RACK HR-FT-EPX BLACK COMBINED CURB & WALK. SEE DETAIL 04/C7.0

CONCRETE SIDEWALK. SEE DETAIL 07/C7.2 "DO NOT ENTER" SIGN, R5-1 (30"x30")

DETECTABLE WARNING STRIP (COLOR BLACK). SEE DETAIL 06/C7.0 FLUSH WITH PAVEMENT

TYPICAL PARKING SPACE MARKING. SEE DETAILS 08 & 10/C7.0 TRAFFIC SIGNAGE. SEE DETAIL 15 & 16/C7.0

PRECAST CONC. WHEEL STOPS (QTY 2)

TAPER CURB FLUSH INTO WALK/PAVEMENT

TRASH ENCLOSURE. REFER TO ARCH. PLANS FOR DETAILS

STOP SIGN, R1-1 (30"x30")

COLORED CONCRETE PAVEMENT (MATCH LEO'S) FOR PEDESTRIAN WALKWAYS: 6" CONC W/ WWF (1.6x1.6), OR F.R.; ON 6" COMP. #53 STONE; ON COMPACTED SUBGRADE

"RIGHT TURN ONLY" SIGN

OUTDOOR SEATING AREA. REFER TO ARCH. PLANS FOR DETAILS

OUTDOOR SEATING FENCING. REFER TO ARCH. PLANS FOR DETAILS

#### SITE LAYOUT NOTES

ALL CONSTRUCTION METHODS AND MATERIALS MUST CONFORM TO CURRENT STANDARDS AND SPECIFICATIONS OF THE FEDERAL, STATE, COUNTY, CITY, OR LOCAL REQUIREMENTS, WHICHEVER HAS JURISDICTION.

2. ALL PARKING STRIPES ARE TO BE 4" PAINTED WHITE. UNLESS OTHERWISE NOTED ON THE PLANS, DETAILS, OR SPECIFICATIONS.

3. ALL DIMENSIONS ARE TO EDGE OF PAVEMENT, FACE OF CURB/SIDEWALK, RADII TO BACK OF CURB, WHERE APPLICABLE.

4. ALL DIMENSIONS ARE TO OUTSIDE FACE OF BRICK OR FACING MATERIAL, WHERE APPLICABLE. CONTRACTOR TO REFER TO ARCHITECTURAL DRAWINGS FOR ACTUAL BUILDING DIMENSIONS.

THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND ELEVATIONS IN THE FIELD PRIOR TO THE START OF CONSTRUCTION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL FIELD DIMENSIONS AND ELEVATIONS DURING THE ENTIRE CONSTRUCTION SCHEDULE. IF ANY DISCREPANCIES ARE FOUND IN THESE PLANS FROM ACTUAL FIELD DIMENSIONS, THE CONTRACTOR SHALL CONTACT THE ENGINEER IMMEDIATELY.

PROVIDE SMOOTH TRANSITION FROM NEWLY PAVED AREAS TO EXISTING AREAS AS NECESSARY. ALL AREAS WHERE PROPOSED PAVEMENT MEETS EXISTING PAVEMENT, THE EXISTING EDGE OF PAVEMENT SHALL BE FREE OF ALL LOOSE DEBRIS. THE EDGE OF EXISTING ASPHALT PAVEMENT SHALL BE PROPERLY SEALED WITH A TACK COAT MATERIAL IN ALL ASS WHERE NEW ASPHALT PAVEMENT IS INDICATED TO JOIN EXISTING.

ALL EXCAVATED AREAS TO BE SEEDED AND/OR SODDED AFTER FINISH GRADING UNLESS OTHERWISE NOTED. ALL NEWLY SODDED/SEEDED AREAS SHALL HAVE A MINIMUM OF 4" OF TOPSOIL. HOLD SOIL DOWN 1" FROM PAVEMENT ELEVATION. CONTRACTOR TO SUPPLY STRAW MULCH WHERE GRASS SEED HAS BEEN PLANTED.

RESURFACE OR RECONSTRUCT AT LEAST TO ORIGINAL CONDITIONS ALL AREAS WHERE TRAFFIC BY CONTRACTORS, SUBCONTRACTORS OR SUPPLIERS HAVE DAMAGED EXISTING PAVEMENT, LAWNS OR OTHER IMPROVEMENTS DURING CONSTRUCTION, AFTER CONSTRUCTION WORK IS COMPLETE.

9. ALL UTILITY TRENCHES WITHIN 5 FEET OF PAVEMENT SHALL BE COMPLETELY BACKFILLED WITH GRANULAR BACKFILL.

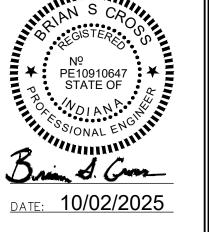
10. ALL RADII INDICATED SHALL BE CONSTRUCTED AS CIRCULAR ARCS.

11. ALL PARKING SPACE DIMENSIONS ARE TO BE 9' WIDE BY 19' DEEP UNLESS OTHERWISE SPECIFIED.

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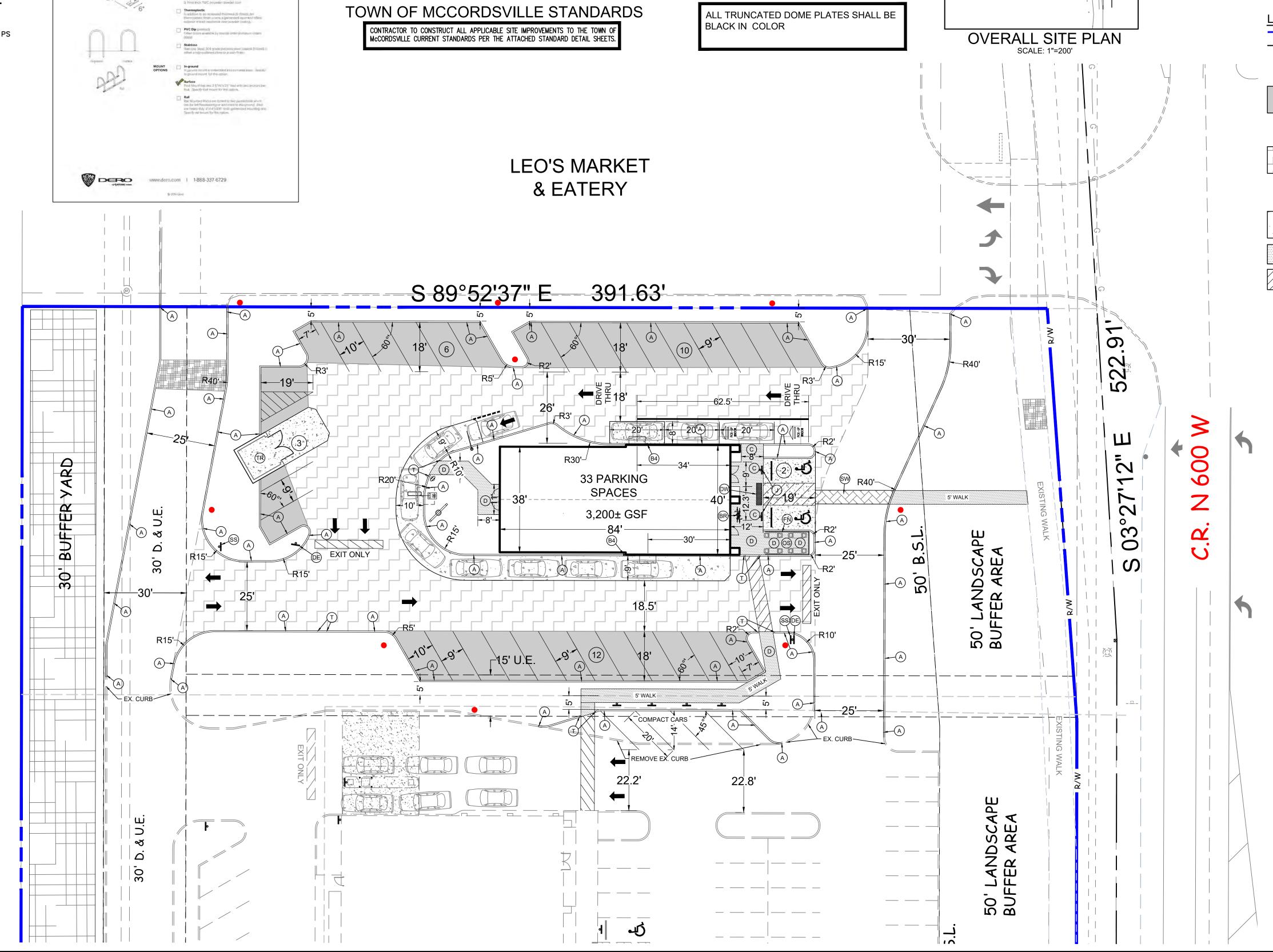
BSC DWN BY: BSC CHKD. BY: 1" = 20'

10/02/25

PROJECT NUMBER

BRG.008 DRAWING NUMBER

SHEET 2 OF 24



**BENCHMARK** 

TBM #400 CUT "X" ON WEST ANCHOR BOLT OF

SIGNAL POLE, LOCATED IN SOUTHWEST QUAD OF "CR

EXISTING STORM MH

Inv. Out (24"Ø~N)=842.22

Inv. Out (36"Ø~S)=842.22

Inv. In (24"Ø~E)=842.40

EX TC= 848.71

6' Ø 'DOG HOUSE' STORM MH

INV=842.19±(N/S-36" RCP)

INV=843.50 (E-15" RCP)

**EXISTING STORM INLET** 

(NEENAH R-3405)

EX TC= 847.25 Inv. Out (12"Ø~S)=843.75

(NEENAH R-1772)

TC=848 8+

AQUASWIRL XCELARATOR

INV=843.40 (12" HDPE)

XC-3 BMP TC = 849.0 +

(LOCATIONS SHOWN ON SURVEY)

900 N" AND "CR 600 W".

ELEV. = 850.90 (NAVD 88)

**CASTING NOTE** STORM INLET CASTINGS TO REQUIRE A

"NO DUMPING" MESSAGE PER THE

TOWN OF MCCORDSVILLE STANDARDS.

42 LF 15-INCH

RCP @ 0.60%

16 LF 15-INCH RCP @ 0.30% —

#### TOPOGRAPHIC & BOUNDARY NOTE

GAS, POWER, AND TELECOM.

6' Ø BMP DIVERSION STORM MH

(ECCENTRIC CONE TOP REQ'D)

EXIT ONLY

5' Ø STORM MH

TC=848.70 GUT=848.20

**CURB INLET (NEENAH R-3067)** 

EX. 18" STORM

INV=844.65 SE-12" RCP) INV=844.55 (N-12" RCP)

TOP OF DIV. WALL=844.30

INV=843.80 (S-12" HDPE)

INV=843.75 (S-12" HDPE)

INV=843.85(E-15" RCP)

INV=843.65 (W-15" RCP)

- TC=849 0+

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**GRADING & UTILITY NOTE** 

CONTRACTOR TO VERIFY THE DEPTH AND LOCATION OF ALL EXISTING

UTILITIES PRIOR TO COMMENCING CONSTRUCTION. PROPOSED

DRIVEWAY CUTS MAY REQUIRE EXISTING UTILITY FACILITIES TO BE

STANDARDS OF COVER / VERTICAL SEPARATION, INCLUDING WATER,

LOWERED AND/OR RELOCATED IN ORDER TO MAINTAIN MINIMUM

STORM MH (NEENAH R-2502)

INV=844.15 (E-12" RCP)

INV=844.25 (S-12" RCP)

INV=843.90 (W-15" RCP)

849.90

EXISTING BUILDING

FFE=850.0

# FLOOD NOTE

THIS LOT LIES ENTIRELY IN FLOOD HAZARD ZONE "X" AS SCALED FROM THE FLOOD INSURANCE RATE MAP (FIRM) FOR HANCOCK COUNTY, INDIANA, COMMUNITY NUMBER 180468, MAP NUMBER 18059C0016D, PANEL NUMBER 0016 D, DATED DECEMBER 4, 2007

REFERENCE NFIP FIRM MAP #18059C0016D,

EFFECTIVE DATE: DECEMBER 4, 2007

**CURB INLET TYPE M** 

INV=844.8 (S-8" PVC)

INV=844.70 (W-12" RCP)

181 LF 12-INCH RCP @ 0.30%

FFE=850.20

CURB INLET TYPE M (NEENAH R-3067)

INV=845.0 (NW-12" RCP)

GUT=848.50

(NEENAH R-3067)

TC=848.70

GUT=848.20

ALL ON-SITE STORM SEWER INFRASTRUCTURE TO BE CONSTRUCTED WITH THIS PROJECT SHALL BE PRIVATELY OWNED AND MAINTAINED.

EX. 12" STORM

STORM SEWER SYSTEM NOTE



**REVISION RECORD** 

DESCRIPTION

TAC REVIEW; STORM SEWER; ROOF DRAINS

( IN FEET ) 1 inch = 20 ft.

#### PLAN NOTES:

DATE

11/04/25

APPROX. 60± LF OF 8" PVC (SDR35 @1.0% MIN. SLOPE) ROOF DRAIN LEADER WITH RISERS, ADAPTERS FOR CONNECTIONS, BENDS, FITTINGS, & CLEANOUTS AT BENDS > 22.5° FOR ROOF CONNECTIONS; REDUCE TO 6" TO BLDG. DOWNSPOUTS

APPROX. 33± LF OF 6" PVC (SDR35 @1.0% MIN. SLOPE) ROOF DRAIN LEADER WITH RISERS, ADAPTERS FOR CONNECTIONS, BENDS, ITTINGS, & CLEANOUTS AT BENDS > 22.5° FOR ROOF CONNECTIONS;

> **DEVELOPER:** BDC REALTY GROUP, LLC 6274 SOUTH FOX CHASE PENDLETON, INDIANA 46064 ATTN: DAVE CRAVENS (765) 635-5559

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BSC

BSC

**ENGINEER** CIVIL SITE GROUP, INC. 718 ADAMS STREET CARMEL, INDIANA 46032 (317) 810-1677

CROSSROAD ENGINEERS 3417 Sherman Drive Beech Grove, IN 46107 ATTN: G.W. Charles, PE, PS (317) 780-1555

PROPERTY BOUNDARY OR R/W (REFER TO ALTA/NSPS SURVEY) PROPOSED STORM SEWER ---- PROPOSED INLET SUB-SURFACE DRAIN / ROOF DRAINS

PROPOSED STORM STRUCTURE

PROPOSED SPOT ELEVATION

PROPOSED PVMT ELEVATION MATCH EXISTING GRADE

-----849 PROPOSED CONTOUR —— 850—— EXISTING CONTOUR

CONTRACTOR TO KEEP EXISTING PAVEMENT SURROUNDING THE SITE (CR N 600 W) "BROOM CLEAN" AND FREE OF SOIL OR AGGREGATE THAT

ALL CONCRETE PIPE JOINTS SHALL BE CONTINUOUS O-RING RUBBER GASKET CONFORMING TO ASTM C 443

CONTRACTOR SHALL SUBMIT PRECAST STORM SEWER STRUCTURE SHOP DRAWINGS TO ENGINEER FOR REVIEW/APPROVAL PRIOR TO MANUFACTURING.

#### **GRADING NOTES**

- THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS IN THE FIELD PRIOR TO STARTING CONSTRUCTION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL FIELD DIMENSIONS. IF ANY DISCREPANCIES ARE FOUND IN THESE PLANS FROM THE ACCUSED IMMEDIATELY.
- THE EXCAVATING CONTRACTOR MUST TAKE PARTICULAR CARE WHEN EXCAVATING IN AND AROUND EXISTING UTILITY LINES AND EQUIPMENT. VERIFY COVER REQUIREMENTS BY UTILITY CONTRACTORS AND/OR UTILITY COMPANIES SO AS NOT TO CAUSE DAMAGE.
- THE CONTRACTOR SHALL NOTIFY ALL UTILITY COMPANIES 72 HOURS BEFORE CONSTRUCTION IS TO START, TO VERIFY IF ANY UTILITIES ARE PRESENT ON SITE. ALL VERIFICATIONS (LOCATION, SIZE AND DEPTH) SHALL BE MADE BY THE APPROPRIATE UTILITY COMPANIES. WHEN EXCAVATING IS AROUND OR OVER EXISTING UTILITIES, THE CONTRACTOR MUST NOTIFY THE UTILITY COMPANY SO A REPRESENTATIVE OF THAT UTILITY COMPANY CAN BE PRESENT TO INSTRUCT AND OBSERVE DURING CONSTRUCTION.
- TRENCHES FOR ALL STORM DRAIN LINES SHALL BE BACKFILLED COMPLETELY WITH ENGINEERED GRANULAR MATERIAL IF WITHIN 5 FEET OF PAVEMENT.
- AFTER STRIPPING TOPSOIL MATERIAL, PROOFROLL WITH A MEDIUM WEIGHT ROLLER TO DETERMINE LOCATIONS OF ANY POCKETS OF UNSUITABLE MATERIAL. THE NECESSITY FOR SUBDRAINS AND/OR REMOVAL OF ANY UNSUITABLE MATERIAL WITHIN THE PROPOSED PARKING AREAS WILL BE DETERMINED AT THE TIME OF CONSTRUCTION.
- PROVIDE POSITIVE DRAINAGE WITHOUT PONDING, IN ALL AREAS, AFTER INSTALLATION, CONTRACTOR TO TEST FOR, AND CORRECT, IF ANY, "BIRD BATH" CONDITIONS.
- 9. SEE APPROPRIATE DETAILS TO DETERMINE SUBGRADE ELEVATIONS BELOW FINISH GRADE ELEVATIONS INDICATED.
- 10. FLOW LINE ELEVATIONS GIVEN AT END OF CONCRETE END SECTIONS.
- 11. SIDEWALK AGAINST BUILDING SHALL SLOPE AWAY FROM BUILDING AT 1.04% SLOPE MIN.

REDUCE TO 6" TO BLDG. DOWNSPOUTS

FLUSH WITH PAVEMENT

SURVEYOR:

#### LEGEND:

EX. UNDERGROUND STORM SEWER LINE

PROPOSED TOP OF CURB ELEVATION TOP OF CURB/STORM CASTING ELEVATION

STORM SEWER INVERT ELEVATION

------> PROPOSED DRAINAGE SWALE

# **GENERAL NOTES**

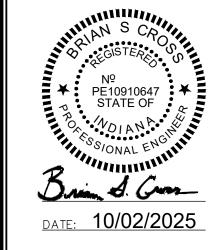
MIGHT BE BROUGHT OFF-SITE.

DEPENDING ON THE CONSTRUCTION SEASON, MOISTURE CONTENT AND PROPERTIES OF THE SOILS ON SITE, CHEMICAL MODIFICATIONS AND/OR LIME STABILIZATION MAY BE REQUIRED. SEE SHEET C9.0 FOR SPECIFICATIONS.

- ALL CONSTRUCTION METHODS AND MATERIALS MUST CONFORM TO CURRENT STANDARDS AND SPECIFICATIONS OF THE FEDERAL, STATE, COUNTY, CITY OR LOCAL REQUIREMENTS, WHICHEVER HAS JURISDICTION.
- ENGINEER IMMEDIATELY.

- 8. ALL PROPOSED SPOT ELEVATIONS ARE THE FINAL PAVEMENT AND FINAL GRADE ELEVATIONS.





BSC DWN BY: CHKD. BY: 1" = 20'

10/02/25

PROJECT NUMBER BRG.008

DRAWING NUMBER C3.0 SHEET 3 OF 24 SOILS MAP

SCALE: 1" = 200'

**CASTING NOTE** 

STORM INLET CASTINGS TO REQUIRE A

"NO DUMPING" MESSAGE PER THE TOWN OF PENDLETON STANDARDS.

#### **SOILS DESCRIPTIONS & LIMITATIONS**

1. Crosby Silt Loam (YcuA - 32.7% Site) The Crosby series consists of very deep, somewhat poorly drained soils that are moderately deep to dense till on till plains. These soils formed in loamy till that can be capped with up to 22 inches of loess or silty material. Permeability is moderate or moderately slow in and above the argillic horizon and slow or very slow below the argillic horizon. Slope ranges from 0 to 6 percent. Subject soil does not present any foreseeable limitations to the proposed development.

2. <u>Brookston</u> Silty Clay Loam (<u>YbvA</u> - 67.3% Site) The Brookston series consists of very deep, poorly drained soils formed in up to 20 inches of silty material and the underlying loamy till in depressions on till plains and moraines. Permeability is moderate in the subsoil and moderately slow in the underlying material. Slope ranges from 0 to 3 percent. Subject soil does not present any foreseeable limitations to the proposed development. Given that this soil typically shows high moisture content and is a hydric soil, permeability may be moderate, soil chemical modifications (i.e. lime stabilization) may likely be required.

CONTRACTOR RESPONSIBLE TO !!! NO

CONSTRUCTION

TRAFFIC !!!

INSTALL SILT FENCE ON

NORTH PROPERTY LINE

KEEP ROAD FREE OF

DUST/DEBRIS/MUD AT ALL TIMES

IINLEI

**PROTECTION** 

ANCHORED : PORT-O-LET LOCATION

CONSTRUCTION

SWPP TRAINED INDIVIDUAL:

SWPP PERMIT/PLANS

!!! NO

CONSTRUCTION

TRAFFIC !!!

POSTED FOR INSPECTOR

IN WEATHER PROOF PVC

CONTRACTOR RESPONSIBLE TO

KEEP ROAD FREE OF

DUST/DEBRIS/MUD AT ALL TIMES

CONSTRUCTION

STAGING / PARKING

♣≠≠₽<sup>®</sup>

DASHED LINE DENOTES

CONSTRUCTION LIMITS

(1.0 ± ACRES)

Self-inspections - A trained individual shall perform visual inspections of the project site. A trained individual is an individual who is trained and experienced in the principles of stormwater management, including erosion and sediment control as is demonstrated by completion of coursework, state registration, professional certification, or annual training that enable the individual to make judgments regarding stormwater management, treatment, and monitoring. 1) The frequency of self-inspections are:

a. At least once every work week; b. Within twenty-four (24) hours after qualifying precipitation event, which is precipitation accumulation equal to, or greater than, one-half (0.50) inch of rainfall within a 24-hour period. Inspections that were conducted twenty-four (24) hours prior to a qualifying precipitation event meet this requirement.

c. If there are multiple qualifying precipitation events occur during the week no more than three (3) inspections are required within that week.

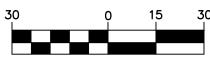
CONSTRUCTION

TRAFFIC !!!

009



REV	DATE	DESCRIPTION	DES BY	APP
1	11/04/25	TAC REVIEW REVISIONS	BSC	BS



1 inch = 30 ft.

## TOPOGRAPHIC & BOUNDARY NOTE

DEVELOPMENT SUMMARY

TOTAL SITE AREA = 5.69± ACRES TOTAL DISTURBED AREA = 1.0± ACRES

ALL EXISTING HORIZONTAL AND VERTICAL INFORMATION HAS BEEN SHOWN PER A TOPOGRAPHIC SURVEY DATED 03/11/2024 PREPARED BY CROSSROAD ENGINEERG, P.C.; THEREFORE, CIVIL SITE GROUP, INC. CANNOT BE HELD RESPONSIBLE IF ACTUAL HORIZONTAL AND VERTICAL DATA IS DIFFERENT FROM THAT SHOWN ON THESE PLANS. CONTRACTOR IS RESPONSIBLE FOR FIELD VERIFICATION OF ALL EXISTING CONDITIONS PRIOR TO COMMENCING WITH CONSTRUCTION.

#### LEGEND:

R/W PROPERTY BOUNDARY OR R/W (REFER TO ALTA/NSPS SURVEY) PROPOSED STORM SEWER ---- PROPOSED SUB-SURFACE ROOF DRAIN PROPOSED STORM STRUCTURE

—— 860—— EXISTING CONTOUR

> APPROX. CONSTRUCTION LIMITS Check Dam/Sediment Filter - Pond Outlet Protection & Existing Road Culverts (Rock Check Dam). SEE DETAIL 04/C4.1

where sediment could leave the site. SEE DETAIL 06/C4.1 PERMANENT SEEDING WITH STRAW MULCH - TYPICAL AFTER FINAL GRADING IS COMPLETED.

TEMPORARY SEEDING WITH STRAW MULCH - TYPICAL WHERE CONSTRUCTION ACTIVITIES WILL REMAIN IDLE FOR A PERIOD OF 10 DAYS OR MORE.

FlexStorm Baskets to be utilized in paved areas. SEE DETAIL ON SHEET C4.1

NOTE: INSTALL TEMPORARY SEEDING AFTER A SPECIFIC STAGE OF CONSTRUCTION HAS BEEN COMPLETED (TEMPORARY OR FINAL) WHERE AREAS WILL BE IDLE OF CONSTRUCTION ACTIVITIES FOR A PERIOD OF 7 DAYS OR MORE.

# TOWN OF MCCORDSVILLE STANDARDS

CONTRACTOR TO CONSTRUCT ALL APPLICABLE SITE IMPROVEMENTS TO THE TOWN OF McCORDSVILLE CURRENT STANDARDS PER THE ATTACHED STANDARD DETAIL SHEETS

## DEWATERING DISCHARGE

ALL DEWATERING PUMPING SHALL BE DISCHARGED INTO AN APPROVED FILTER BAG BEFORE RELEASING INTO THE **EXISTING STORM SEWER SYSTEM AND/OR** R/W SWALE.

#### **GENERAL NOTES**

- CONTRACTOR TO SCHEDULE A PRE-CONSTRUCTION MEETING WITH THE TOWN OF MCCORDSVILLE AND/OR HANCOCK COUNTY SOIL & WATER CONSERVATION DISTRICT PRIOR TO COMMENCING WITH CONSTRUCTION.
- 2. TEMPORARY TRAFFIC CONTROL DURING CONSTRUCTION TO CONFORM TO APPLICABLE LOCAL AND STATE STANDARDS.
- 3. ALL CONSTRUCTION ACTIVITY ON THIS SITE TO BE PERFORMED IN COMPLIANCE WITH APPLICABLE O.S.H.A. STANDARDS FOR WORKER
- 4. IT SHALL BE THE CONTRACTORS RESPONSIBILITY TO FIELD VERIFY ALL UTILITY LOCATIONS BEFORE CONSTRUCTION BEGINS.
- 5. IT SHALL BE THE CONTRACTORS RESPONSIBILITY TO FIELD VERIFY ALL EXISTING ELEVATIONS BEFORE CONSTRUCTION BEGINS.

# ADDITIONAL EROSION CONTROL FIELD BY THE INSPECTOR

#### **EROSION CONTROL NOTES**

- 2. LAND ALTERATION WHICH STRIPS THE LAND OF VEGETATION, INCLUDING REGRADING, SHALL BE DONE IN A WAY THAT WILL MINIMIZE EROSION.
- 3. THIS PLAN SHALL NOT BE CONSIDERED ALL INCLUSIVE AS THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO PREVENT SOIL SEDIMENT FROM LEAVING THE SITE. ADDITIONAL EROSION AND SEDIMENT CONTROL MEASURES WILL BE INSTALLED IF DEEMED NECESSARY BY ON—SITE INSPECTION.
- 4. SEDIMENT LADEN WATER SHALL BE DETAINED BY EROSION CONTROL PRACTICES AS NEEDED TO MINIMIZE SEDIMENTATION IN THE RECEIVING STREAM. NO STORM WATER SHALL BE DISCHARGED FROM THE SITE IN A MANNER THAT CAUSES EROSION AT THE POINT OF DISCHARGE.
- 5. WASTES AND UNUSED BUILDING MATERIALS SHALL NOT BE ALLOWED TO BE CARRIED FROM THE SITE BY STORMWATER RUNOFF. PROPER DISPOSAL OF ALL WASTES AND UNUSED BUILDING MATERIALS IS REQUIRED.
- 6. SEDIMENT BEING TRACED ONTO PUBLIC OR PRIVATE ROADWAYS SHALL BE MINIMIZED. CLEARING OF ACCUMULATED SEDIMENT SHALL NOT INCLUDE FLUSHING DISPOSAL CLEARED SEDIMENT SHALL BE RETURNED TO THE SITE FOR DISPOSAL.
- 8. IF INSTALLATION OF STORM DRAINAGE SYSTEM SHOULD BE INTERRUPTED BY WEATHER OR NIGHTFALL, THE PIPE ENDS SHALL BE COVERED WITH FILTER
- ALL EXISTING STRUCTURES, FENCING, TREES AND ETC., WITHIN CONSTRUCTION AREA SHALL BE REMOVED AND DISPOSED OF OFF SITE. BURNING IS NOT

- a) THE DURATION OF TIME WHICH AN AREA REMAINS EXPOSED SHALL BE KEPT TO A PRACTICAL MINIMUM. THE AREA SHALL BE STABILIZED SOON AS POSSIBLE. TEMPORARY VEGETATION OR MULCHING SHALL BE USED TO PROTECT EXPOSED AREAS IF PERMANENT VEGETATION CANNOT BE SEEDED WITHIN 14 DAYS OR ACTIVITY CEASES FOR MORE THAN 21 DAYS OR AS DIRECTED BY THE ENGINEER.
- TOPSOIL REPLACEMENT SHALL TAKE PLACE FROM MARCH 1 TO OCTOBER 31. STOCKPILE TOPSOIL AT ALL OTHER TIME OF THE YEAR. PERMANENT AND FINAL VEGETATION AND STRUCTURAL EROSION CONTROL DEVICES SHALL BE INSTALLED WITHIN SEVEN (7) DAYS AFTER FINAL GRADING OR AS SOON AS POSSIBLE.

--> · · ----- PROPOSED DRAINAGE SWALE PROPOSED SILT FENCE-Typical in all areas

(EB) PROPOSED EROSION CONTROL BLANKET SEE DETAIL 05/C4.1

TS Point where stormwater will leave the site.

PROPOSED TEMPORARY CONSTRUCTION ENTRANCE SEE DETAIL 03/C4.1

**MULCHING NOTE** 

WHERE REQUIRED, CRIMPED/ANCHORED MULCH OR

PRACTICE 3.15 OF THE INDIANA HANDBOOK FOR

ROSION CONTROL IN DEVELOPING AREAS.

DURING THE CONSTRUCTION PROCESS.

DAVE CRAVENS

(765) 635-5559

BDC REALTY GROUP, LLC

PENDLETON, INDIANA 46064

6274 SOUTH FOX CHASE

MULCH WITH A TACKING AGENT SHALL BE USED. THE <u>APPLICATION RATE SHOULD MEET GUIDELINES PER</u>

STREET EROSION NOTE

THERE SHALL BE NO DIRT, DEBRIS, OR STORAGE

**EROSION CONTROL CONTACT** 

OF MATERIALS IN THE SURROUNDING STREETS

# MEASURES MAY BE REQUIRED IN THE

- 1. ALL CONSTRUCTION METHODS AND MATERIALS MUST CONFORM TO CURRENT STANDARDS AND SPECIFICATIONS OF THE FEDERAL, STATE, COUNTY, CITY OR LOCAL REQUIREMENTS, WHICHEVER HAS JURISDICTION.

- 7. SOIL WHICH HAS ACCUMULATED NEXT TO EROSION CONTROL DEVICES SHALL BE COLLECTED AND REDISTRIBUTED ON SITE AFTER EACH RAINFALL EVENT, AND AT LEAST ONCE A WEEK.
- ALLOWED ON-SITE.

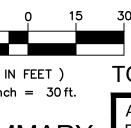
#### 10. SCHEDULE OF EARTHWORK ACTIVITIES:

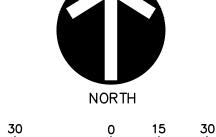
# FLOOD NOTE

ZONE "X" AS SCALED FROM THE FLOOD COUNTY, INDIANA, COMMUNITY NUMBER 180468, MAP NUMBER 18059C0016D, PANEL

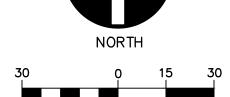
REFERENCE NFIP FIRM MAP #18059C0016D, EFFECTIVE DATE: DECEMBER 4, 2007

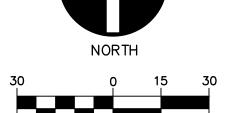
THIS LOT LIES ENTIRELY IN FLOOD HAZARD INSURANCE RATE MAP (FIRM) FOR HANCOCK NUMBER 0016 D, DATED DECEMBER 4, 2007.











REVISION RECORD





BSC DWN BY: BSC CHKD. BY: SCALE:

1" = 30'10/02/25

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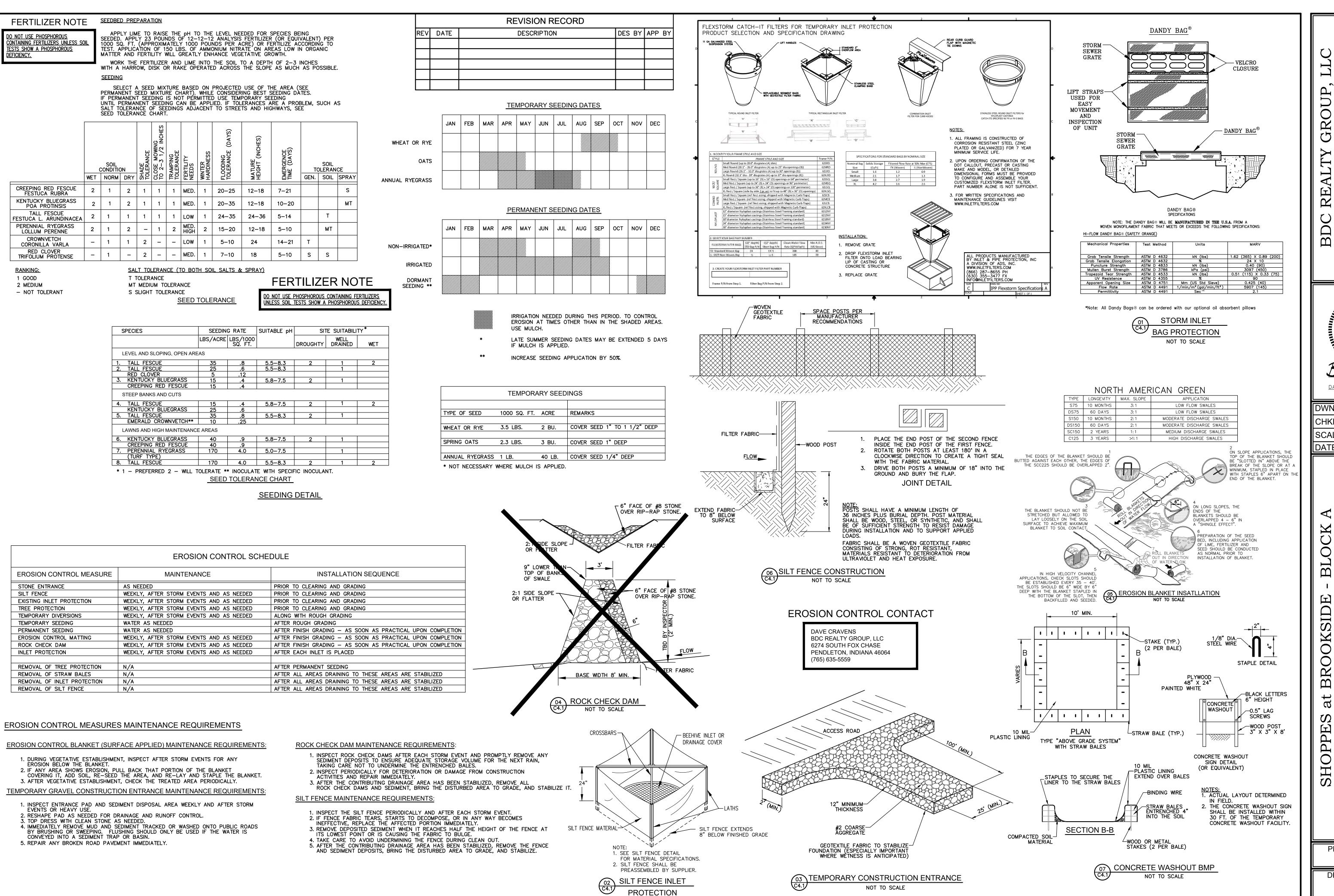
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RM

PROJECT NUMBER BRG.008

DRAWING NUMBER C4.0 SHEET 5 OF 24



NOT TO SCALE

DATE: 10/02/2025 **BSC BSC** 10/02/25

PE10910647

STATE OF

CHKD. BY:

70

NTIO 田 REBU P H 

STORM PROJECT NUMBER BRG.008

DRAWING NUMBER SHEET 6 OF 24

LELEMENTS IN THE CONSTRUCTION PLAN: This sheet C4.2 serves as the index of all of the information required by this section.

 $\wedge \cap A$  VICINITY MAP DEPICTING THE PROJECT SITI

A LOCATION IN RELATIONSHIP TO MAJOR ROADS The vicinity map depicting the project site location can be found on sheet C0.0.

#### Λ 7 \NARRATIVE OF THE NATURE & ∠/PURPOSE OF THE PROJECT:

This project is located on the west side of Mount Comfort Road (CR N 600 W) approximately 700 feet south of CR W 900 N. The property lies within the existing Villages at Brookside commercial PUD in Hancock County, Town of McCordsville, Indiana. The subject site currently consists of a single lot that totals 5.96 + /- acres (excludes right—of—way area). The proposed improvements will consist of constructing a new 3,200 sf +/— retail/commercial tenant building, surface parking, drainage, utilities, and landscaping. The approximate limits of disturbance for this project is 1 + /- acres, including off-site utility connections. The subject site is currently vacant with some landscape berms on the west and south perimeters

## (A4) LONGITUDE

Longitude W -85.919518 / Latitude N 39.911210

#### Λ Ϛ \LEGAL DESCRIPTION OF (AD) THE PROJECT SITE:

The legal description can be found on sheets C0.0 & the Survey.

## $\Lambda \subset 11x17$ -INCH PLAT SHOWING THE BUILDING LOT

NUMBERS/BOUNDARIES & ROAD LAYOUT/NAMES These construction plans can be printed at 11x17 size and will be legible.

## $_{ m \Lambda}$ $\supset$ \BOUNDARIES OF THE 100-HUNDRED (100) YEAR

 $oldsymbol{\perp}$ FLOODPLAINS, FLOODWAY FRINGES & FLOODWAYS The subject site lies outside of the FEMA flood plain. FIRM Map information can be found

#### on sheets C3.0 & C4.0.

(A8) LAND USE OF ADJACENT PROPERTIES:

North: Commercial / South: Commercial East: Residential / West: Residential

## (A9) <u>IDENTIFICATION OF A U.S. EPA</u> APPROVED OR ESTABLISHED TMDL:

North Fork Dry Branch is currently established as a Category 2, not iimpaired waterway, and is not on the current 303(d) list o impaired waters

#### ∧ 1 ∩ \NAMES OF RECEIVING

Stormwater runoff from the subject site will be collected in an an on—site storm sewer system and routed to an existing detention system. The site ultimately discharges into North Fork Dry Branch to Geist Reservoir.

#### Λ 1 1 \ IDENTIFICATION OF DISCHARGES TO A WATER ON THE CURRENT 303(d) LIST OF IMPAIRED WATERS:

Stormwater runoff from the subject site will be collected in an an on—site storm sewer system and routed to an existing detention system. North Fork Dry Branch is not listed on IDEMs current 303(d) list of impaired waters.

## \_\_\_\_\_PREDOMINANT SOIL TYPES:

A soils map with soil properties, characteristics, limitations and hazards can be found on

#### ΄ λ 1 7 \LOCATION OF ALL KNOWN WETLANDS, LAKES & WATER

(AIJ) COURSES ON OR ADJACENT TO THE PROJECT SITE:

There are no wetlands, lakes or water courses on or adjacent to the subject site. North Fork Dry Branch is located adjacent northwest of the subject site.

#### $\mid \setminus$ IDENTIFICATION OF ANY OTHER STATE OR FEDERAL WATER QUALITY PERMITS REQUIRED FOR CONSTRUCTION:

Outside of the standard Indiana Construction Stormwater General Permit (CSGP). there are

#### not any additional state or federal water quality permits required for this project

#### \IDENTIFICATION & DELINEATION OF EXISTING COVER, MIDING NATURAL BUFFERS

The subject site currently consists of grass/weed cover from previous construction land disturbance

#### \EXISTING SITE TOPOGRAPHY AT AN INTERVAL APPROPRIATE

A I U TO INDICATE DRAINAGE PATTERNS: Existing and proposed conditions topography can be found on sheets C3.0 & Survey.

## 17 LOCATION(S) WHERE RUNOFF

∠ENTERS THE PROJECT SITE:

CR N 600 W drains onto the subject site in the existing conditions. Existing conditions can be found on the Existing Conditions Survey.

## (A18) LOCATION(S) WHERE RUNOFF DISCHARGES FROM THE PROJECT SITE PRIOR TO LAND DISTURBANCE:

detention system. Existing conditions can be found on the Existing Conditions Survey.

The subject site currently consists of grass/weed cover from previous construction land disturbance. The site drains from east to west, collected in an on-site storm sewer system and routed to an existing

#### LOCATION OF ALL EXISTING

A 19 STRUCTURES ON THE PROJECT SITE There are no existing structures on the subject site. Existing conditions can be found on

#### the Existing Conditions Survey. \EXISTING PERMANENT RETENTION OR

ハムU DETENTION FACILITIES:

There is NO existing permanent detention facility on the subject site. An existing detention facility is located west of the subject property. Existing conditions can be found on the

#### Existing Conditions Survey. A ○1 \LOCATIONS WHERE STORMWATER MAY BE

DIRECTLY DISCHARGED INTO GROUNDWATER:

#### The subject site currently consists of grass/weed cover from previous construction land disturbance. The site drains from east to west, collected in an on-site storm sewer system and routed to an existing detention system.

Existing conditions can be found on the Existing Conditions Survey.

#### ∧ ¬ ¬ \SIZE OF THE PROJECT 、ハムム FXPRESSED IN ACRES

The overall subject site is 5.69+/- acres in size; however, the proposed improvements, including utility connections, will be disturbing approximately 1 + /- acres.

#### ₹ \TOTAL EXPECTED LAND <u>、ハムリ J</u>DISTU<u>RBANCE</u>

The overall subject site is 5.69+/- acres in size; however, the proposed improvements, including utility connections, will be disturbing approximately 1 + /- acres.

#### HZ4 TOPOGRAPHY

The location of all proposed site improvements, including final topography, roads, utilities, ot delineation, proposed structures, and common areas can be found on sheets C2.0, C3.0, C5.0, and L1.0.

#### **\LOCATIONS & APPROXIMATE BOUNDARIES**

#### ハムン JOF ALL DISTURBED AREAS:

The location and approximate boundaries of all disturbed areas can be found on sheets C3.0 & C4.0.

#### ለ ጋር \LOCATIONS, SIZE & DIMENSIONS OF THE

AZO STORMWATER DRAINAGE SYSTEM: The details of the proposed stormwater drainage system can be found on sheets C3.0,

## $\Lambda \cap \mathcal{T} \setminus \text{LOCATIONS OF SPECIFIC POINTS WHERE}$

The details of the proposed stormwater drainage system can be found on sheets C3.0, C5.0, and C7.3.

# (A28) LOCATION OF ALL PROPOSED SITE IMPROVEMENTS:

C5.0, and C7.3.

The location of all proposed site improvements, including final topography, roads, utilities, lot delineation, proposed structures, and common areas can be found on sheets C2.0,

#### $\Lambda \cap \Lambda \setminus LOCATION OF ALL SOIL STOCKPILES$ AZY & BORROW AREAS:

A soils stockpile is not anticipated for the construction of this project.

#### $\Lambda$ $\supset$ \CONSTRUCTION SUPPORT ACTIVITIES THAT A JU Jare expected to be part of the project

No construction support activities are anticipated for the construction of this project other than deliveries of materials (i.e. quarry rock, utility pipe, concrete, asphalt). Λ 71 \LOCATION OF ANY IN-STREAM ACTIVITIES  $oldsymbol{\perp}$ THAT ARE PLANNED FOR THE PROJECT:

#### There are no in stream activities planned for this project.

#### \ DESCRIPTION OF THE POTENTIAL POLLUTANT GENERATING SOURCES & POOLUTANTS

Potential pollutants sources relative to a construction site may include, but are not limited to material and fuel storage areas, fueling locations, exposed soils and leaking vehicle/equipment. Potential pollutants that may appear at the site due to construction activities include, but are not limited to diesel fuel, gasoline, concrete and concrete washout, solid waste, sediment, paint and solvents, equipment repair products, anti-freeze

#### $^{\prime}$ $\bigcirc$ $\bigcirc$ $\bigcirc$ $\bigcirc$ $\bigcirc$ STABLE CONSTRUCTION ENTRANCE DZ)LOCATIONS & SPECIFICATIONS:

The location, details and specifications of the construction entrance can be found on sheets C4.0 and C4.1

## (B3) <u>SPECIFICATIONS FOR TEMPORARY & PERMANENT STABILIZATION:</u>

The location, details and specifications of all temporary and permanent erosion control

# B4) SEDIMENT CONTROL MEASURES FOR

CONCENTRATED FLOW AREAS:

#### The location, details and specifications of all sediment control measures for concentrated flow areas can be found on sheets C4.0 and C4.1.

#### ´ D Հ \SEDIMENT CONTROL MEASURES

measures can be found on sheets C4.0 and C4.1.

<u>ノンノ</u>FOR SHEET FLOW AREAS: The location, details and specifications of all sediment control measures for sheet flow

#### areas can be found on sheets C4.0 and C4.1.

can be found on sheets C4.0 and C4.1.

#### റ്റ \RUN-OFF CONTROL MEASURES

The location, details and specifications of all runoff control measures for sheet flow areas

#### 7 \STORMWATER OUTLET PROTECTION

LOCATION & SPECIFICATIONS:

#### The location, details and specifications of stormwater outlet protection measures can be found on sheets C4.0 and C4.1.

#### RA\GRADE STABILIZATION STRUCTURE DO LOCATIONS & SPECIFCIATIONS

We do not anticipate the need for any grade stabilization structures on this project. The location, details and specifications of other erosion control measures can be found on sheets C4.0 and C4.1.

#### $\square \cap \triangle$ D 3 / MANAGEMENT METHODS:

We do not anticipate the need for any dewatering on this project. The location, details and specifications of other erosion control measures can be found on sheets C4.0 and

#### $\bigcap 1 \cap \bigcap MEASURES UTILIZED FOR WORK$ DIO WITHIN WATERBODIES:

We do not anticipate the need for any work within waterbodies on this project. The location, details and specifications of other erosion control measures can be found on sheets C4.0 and C4.1.

#### \ MAINTENANCE GUIDELINES FOR EACH PROPOSED STORMWATER QUALITY MEASURE

CONCRETE WASHOUT, DUMPSTER, PORT-O-LET, AND FUEL TANKS SHOULD BE LOCATED A MINIMUM OF 50 FEET FROM STORM DRAINS, OPEN DRAINAGE FACILITIES. AND

#### ROCK CHECK DAM MAINTENANCE REQUIREMENTS: 1. INSPECT ROCK CHECK DAMS AFTER EACH STORM EVENT AND PROMPTLY REMOVE ANY SEDIMENT DEPOSITS TO ENSURE ADEQUATE STORAGE VOLUME FOR THE NEXT RAIN, TAKING CARE NOT TO UNDERMINE THE ENTRENCHED BALES.

2. INSPECT PERIODICALLY FOR DETERIORATION OR DAMAGE FROM CONSTRUCTION

ACTIVITIES AND REPAIR IMMEDIATELY 3. AFTER THE CONTRIBUTING DRAINAGE AREA HAS BEEN STABILIZED. REMOVE ALL ROCK CHECK DAMS AND SEDIMENT, BRING THE DISTURBED AREA TO GRADE, AND STABILIZE IT.

#### SILT FENCE MAINTENANCE REQUIREMENTS:

INSPECT THE SILT FENCE PERIODICALLY AND AFTER EACH STORM EVENT. IF FENCE FABRIC TEARS, STARTS TO DECOMPOSE, OR IN ANY WAY BECOMES NEFFECTIVE, REPLACE THE AFFECTED PORTION IMMEDIATELY REMOVE DEPOSITED SEDIMENT WHEN IT REACHES HALF THE HEIGHT OF THE FENCE AT

ITS LOWEST POINT OR IS CAUSING THE FABRIC TO BULGE. 4. TAKE CARE TO AVOID UNDERMINING THE FENCE DURING CLEAN OUT. 5. AFTER THE CONTRIBUTING DRAINAGE AREA HAS BEEN STABILIZED, REMOVE THE FENCE

#### AND SEDIMENT DEPOSITS, BRING THE DISTURBED AREA TO GRADE, AND STABILIZE. TEMPORARY SEDIMENT TRAP MAINTENANCE REQUIREMENTS:

INSPECT TEMPORARY SEDIMENT TRAPS AFTER EACH STORM EVENT AND IMMEDIATELY REPAIR ANY EROSION AND PIPING HOLES. REMOVE SEDIMENT WHEN IT HAS ACCUMULATED TO ONE-HALF THE DESIGN DEPTH.

#### REPLACE SPILLWAY GRAVEL FACING IF CLOGGED. INSPECT VEGETATION, AND RE-SEED IF NECESSARY. CHECK THE SPILLWAY DEPTH PERIODICALLY TO ENSURE A MINIMUM OF 1.5 FT. DEPTH FROM THE LOWEST POINT OF THE SETTLED EMBANKMENT TO HIGHEST POINT OF THE

SPILLWAY CREST, AND FILL ANY LOW AREAS TO MAINTAIN DESIGN ELEVATION. PROMPTLY REPLACE ANY DISPLACED RIPRAP, BEING CAREFUL THAT NO STONES IN THE SPILLWAY ARE ABOVE DESIGN GRADE 7. AFTER ALL DISTURBED AREAS HAVE BEEN STABILIZED, REMOVE THE STRUCTURE AND SEDIMENT, SMOOTH THE SITE TO BLEND WITH ADJOINING AREAS, AND STABILIZE.

#### STORM INLET BAG PROTECTION MAINTENANCE REQUIREMENTS: . INSPECT FREQUENTLY FOR DAMAGE BY VEHICULAR TRAFFIC, AND REPAIR IF

4. DEPOSIT REMOVED SEDIMENT WHERE IT WILL NOT ENTER STORM DRAINS

INSPECT AFTER EACH STORM EVENT.

REMOVE SEDIMENT, WITHOUT FLUSHING, WHEN IT REACHES HALF THE HEIGHT OF THE

#### EROSION CONTROL BLANKET (SURFACE APPLIED) MAINTENANCE REQUIREMENTS:

DURING VEGETATIVE ESTABLISHMENT, INSPECT AFTER STORM EVENTS FOR ANY EROSION BELOW THE BLANKET.

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.

3. AFTER VEGETATIVE ESTABLISHMENT, CHECK THE TREATED AREA PERIODICALLY

#### TEMPORARY GRAVEL CONSTRUCTION ENTRANCE MAINTENANCE REQUIREMENTS: INSPECT ENTRANCE PAD AND SEDIMENT DISPOSAL AREA WEEKLY AND AFTER STORM

EVENTS OR HEAVY USE 2. RESHAPE PAD AS NEEDED FOR DRAINAGE AND RUNOFF CONTROL.

TOPDRESS WITH CLEAN STONE AS NEEDED. IMMEDIATELY REMOVE MUD AND SEDIMENT TRACKED OR WASHED ONTO PUBLIC ROADS BY BRUSHING OR SWEEPING. FLUSHING SHOULD ONLY BE USED IF THE WATER IS

CONVEYED INTO A SEDIMENT TRAP OR BASIN. REPAIR ANY BROKEN ROAD PAVEMENT IMMEDIATELY.

EROSION CONTROL SCHEDULE					
EROSION CONTROL MEASURE * MAINTENANCE		INSTALLATION SEQUENCE			
STONE ENTRANCE SILT FENCE & SILT SOCK	AS NEEDED WEEKLY, AFTER STORM EVENTS AND AS NEEDED	PRIOR TO CLEARING AND GRADING PRIOR TO CLEARING AND GRADING			
FLEXSTORM INLET PROTECTION	WEEKLY, AFTER STORM EVENTS AND AS NEEDED	EX. STORM STRUCTURES PRIOR TO CLEARING AND GRADING; AFTER INLET INSTALLATION			
PERMANENT SEEDING EROSION CONTROL MATTING SEED, SOD & SITE LANDSCAPING	WATER AS NEEDED WEEKLY, AFTER STORM EVENTS AND AS NEEDED WATER AS NEEDED	AFTER FINISH GRADING AFTER FINISH GRADING AFTER FINISHED GRADING AROUND FINISHED UNITS			
REMOVAL OF INLET PROTECTION REMOVAL OF SILT FENCE	N/A N/A	AFTER ALL AREAS DRAINING TO THESE AREAS ARE STABILIZED AFTER ALL AREAS DRAINING TO THESE AREAS ARE STABILIZED			
	,				

#### \* - SEE CHART FOR MAINTENANCE REQUIREMENTS

#### D1 → PLANNED CONSTRUCTION

PROVIDE TRAINED INDIVIDUAL DOCUMENTATION TO THE TOWN OF MCCORDSVILLE STORMWATER COORDINATOR. A PRE-CONSTRUCTION MEETING WITH THE TOWN OF MCCORDSVILLE STORMWATER COORDINATOR AND THE OWNER, CONTRACTOR, AND APPOINTED TRAINED INDIVIDUAL WILL BE REQUIRED BEFORE LAND DISTURBING COMMENCES, INCLUDING INSTALLATION OF SEDIMENT AND

STEP # 1: POST AT THE ENTRANCE OF THE PROJECT SITE THE CONTACT INFORMATION OF THE PERSON RESPONSIBLE FOR CONSTRUCTION ACTIVITIES.

STEP # 2: CONTACT (IDEM) & THE TOWN OF MCCORDSVILLE 48 HOURS PRIOR TO STARTING CONSTRUCTION.

#### STEP # 3: DESIGNATE A PERSON TO BE RESPONSIBLE FOR THE SITE INSPECTIONS AFTER EACH 1/2" RAIN AND A MINIMUM OF ONCE

#### STEP # 4: INSTALL TEMPORARY CONSTRUCTION ENTRANCE.

STEP # 5: INSTALL EX. INLET PROTECTION, SILT FENCE & SILT SOCK ALONG THE PERIMETER OF THE SITE WHERE NOTED. BEGIN SITE

#### STEP # 6: COMPLETE MASS GRADING ACTIVITIES INCLUDING REMOVAL OF VEGETATION/MOUNDING ON SOUTH SIDE OF PROPERTY.

STEP # 7: INSTALL SITE STORM DRAINAGE INFRASTRUCTURE INCLUDING INLET PROTECTION MEASURES ALONG WITH SITE UTILITIES.

STEP # 8: INSTALL BUILDING & PAVEMENT & FINAL GRADE SITE.

STEP # 9: INSTALL LANDSCAPING AND FINAL SEEDING. STEP # 10: REMOVE ALL TEMPORARY SEDIMENT CONTROL PRACTICES ONCE THE SITE IS STABILIZED.

This project is not a residential subdivision; therefore, there are no individual building lots.

#### AT FINAL STAGE OF CONSTRUCTION:

ground storage tanks.

A BMP MEETING WILL BE REQUIRED WITH THE CONTRACTOR, OWNER AND/OR LESSEE, AND THE TOWN OF MCCORDSVILLE STORMWATER COORDINATOR AT THE TIME OF CERTIFICATE OF OCCUPANCY. REQUEST FINAL INSPECTION FOR THE STORMWATER MANAGEMENT PERMIT AND TO TERMINATE THE STATE CONSTRUCTION STORMWATER GENERAL PERMIT (CSGP). SEE FINAL INSPECTION REQUIREMENTS.

#### /D17\PROVISIONS FOR EROSION CONTROL ON (DIJ) INDIVIDUAL RESIDENTIAL BUILDING LOTS

#### 

sweepings to aggregate base stockpile or dispose in the trash.

(B14) PREVENTION & SPILL RESPONSE Expected materials that may appear at the site due to construction activities include, but are not limited to

petroleum products, fertilizers, paint and solvents, and concrete. Materials shall be stored in the designated material Spill prevention for vehicle and equipment fueling shall conform to the following practices: 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. Sending vehicles and equipment offsite should be done in conjunction with a Stabilized Construction Entrance/Exit. Implementation: Use offsite fueling stations as much as possible. 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 runoff, and should be located at least 50 ft away from downstream drainage facilities and watercourses. Fueling must be performed on level-grade area. Protect fueling areas with berms and dikes to prevent runoff, and to contain spills. Nozzles used in vehicle and equipment fueling should be equipped with an automatic shutoff to control drips. Fuelina operations should not be left unattended. Federal, state, and local requirements should be observed for any stationary above

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. Spill prevention for solid waste shall conform to the following practices: 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. Solid waste generated from trees and shrubs removed during land clearing, demolition of existing structures, 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 wastes including brick, mortar, timber, steel and metal scraps, pipe and electrical cuttings, non-hazardous equipment parts, Styrofoam and other package construction materials. 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 (sued oils, solvents and paints) and chemicals (acids, 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

Vehicles and equipment should be inspected each day of use for leaks. Leaks should be repaired immediately

watercourses and should not be located in areas prone to flooding or ponding. Inspect construction waste area regularly. Arrange for regular waste collection. Spill prevention for concrete washout shall conform to the following practices: 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 designated areas only. Do not wash out concrete trucks into storm drains, open ditches, streets, or streams. Do not allow excess concrete to be duped onsite, except in designated areas. Locate washout areas at least 50 ft 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 draining water to a bermed or level area when washing concrete to remove fine particles and expose the aggregate. Do not wash sweepings from exposed aggregate concrete into the street or storm drain. Collect and return

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 at least 50 ft from drainage facilities and

The cleanup parameters shall conform to the following practices: The developer homeowners association shall be continually kept informed, maintain lists of auglified contractors and available Vac-trucks, tank pumpers and other equipment readily accessible for cleanup operations. In addition, a continually updated list of available absorbent materials and cleanup supplies should be kept on site. All maintenance personnel will be made aware of techniques for prevention of spills. They will be informed of the requirements and procedures outlined in this plan. They will be kept abreast of current developments or new information on the prevention of spills and / or necessary alteration to this plan. When spills occur which could endanger human life and this become primary concern, the discharge of the lifesaving protection function will be carried out by the local police and fire departments. Absorbent materials, which are used in cleaning up spilled materials, will be disposed of in a manner subject to the approval of the Indiana Department of Environmental Management. Flushing of spilled material with water will not be permitted unless so authorized by the Indiana Department of Environmental Management.

Spill prevention for vehicle and equipment maintenance shall conform to the following practices: Prevent or reduce the contamination of stormwater resulting from vehicle and equipment maintenance by running a "dry and clean site". The best option would be to perform maintenance activities at an offsite facility. If this option is not available then work should be performed in designated areas only, while providing cover for materials stored outside, checking for leaks and spills, and containing and cleaning up spills immediately. These procedures are suitable on all construction projects where an onsite yard area is necessary for storage and maintenance of heavy equipment and vehicles. Onsite vehicle and equipment maintenance should only be used where it is impractical to send vehicles and equipment offsite for maintenance and repair. Sending vehicles / equipment offsite should be done in conjunction with a stabilized construction entrance exit. Outdoor vehicle or equipment maintenance is a potentially significant source of stormwater pollution. Activities that can contaminate stormwater include engine repair and service, changing or replacement of fluids, and outdoor equipment storage and parking (engine fluid leaks). If maintenance must occur onsite, use designated areas, located away from drainage courses. Dedicated maintenance areas should be protected from stormwater runon and runoff, and should be located at least 50 ft from downstream drainage facilities and water courses. Drip pans or absorbent pads should be used during vehicle and equipment maintenance work that involves fluids, unless the maintenance work is performed over and impermeable surface in a dedicated maintenance area. Place a stockpile of spill cleanup materials where it will be readily accessible. All fueling trucks and fueling areas are required to have spill kits and/or use other spill protection devices. Use absorbent materials on small spills. Remove the absorbent materials promptly and dispose of properly. Inspect onsite vehicles and equipment daily at startup for leaks, and repair immediately. Deep vehicles and equipment clean; do not allow excessive buildup of oil and grease. Segregate and recycle wastes, such as greases, used oil or oil filters, antifreeze, cleaning solutions, automotive batteries, hydraulic and transmission fluids. Provide secondary containment and covers for these materials if stored onsite. Train employees and subcontractors in proper maintenance and spill cleanup procedures. Drip pans or plastic sheeting should by placed under all vehicles and equipment placed on docks, barges, other structures over water bodies when the vehicle or equipment is planned to be idle for more than 1 hour. Properly dispose of used oils, fluids, lubricants and spill cleanup materials. Properly dispose of or recycle used batteries. Do not place used oil in a dumpster or pour into a storm drain or water course. Properly dispose of used oils, fluids, lubricants, and spill cleanup materials. Don not bury tires. Repair leaks of fluids and oil immediately.

Spill prevention for fertilizers shall conform to the following practices: Fertilizer's used will be applied only in the minimum amounts recommended by the manufacturer. Once applied, fertilizer will be worked into the soil to limit exposure to storm water. The contents of any partially used bags of fertilizer will be transferred to a sealable plastic

Spill prevention for paint and solvents shall conform to the following practices: All containers will be tightly sealed and stored when not required for use. EXCESS PAINT WILL NOT BE DISCHARGED TO THE STORM SEWER SYSTEM but will be properly disposed of according to manufacturers' instructions or State or local regulations. Spill prevention and cleanup shall conform to IDEM form 327 IAC 2-6 and the Local Fire Department shall be contacted in the case of a material spill occurring.

#### CONTACT INFORMATION:

TOWN OF MCCORDSVILLE (PLANNING & BUILDING DEPARTMENT) CALL (317) 335-3604 TO REPORT SPILL INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT EMERGENCY REPONSE:

(B15) MATERIAL HANDLING & STORAGE PROCEDURES ASSOCIATED WITH CONSTRUCTION ACTIVITY: The material handling and storage procedures can be found under item B(14) on this

#### ASSOCIATED WITH THE PROPOSED LAND USE

Potential pollutant sources that may appear at the site due to proposed land use activities include, but are not limited to vehicles, exposed soil and trash. Potential pollutants include, but are not limited to oil, grease, diesel fuel, gasoline, anti-freeze, automobile fluids, auto soap and fertilizer.

## 

<u>∽</u>∠∠STORMWATER MEASURES Stormwater runoff from the subject site will be routed through A storm water quality uni (AquaSwirl Xcelerator) to remove suspended solids, debris, floatables before the water passes into the isolator row of the on-site infiltration/detention system. See sheets C3.0, C7.1 for location, details and specifications of the stormwater routing and management. Stormwater runoff will be routed to the BMP for TSS removal, permanent seeding, and the implementation of a landscaping plan will help in the reduction of

#### pollutants in stormwater run-off as well. $\sim$ 7 $\setminus$ PLAN DETAILS FOR EACH

STORMWATER MEASURE Stormwater runoff from the subject site will be routed through storm water quality unit (AquaSwirl Xcelerator) to remove suspended solids, debris, floatables before the water passes into the storm sewer system and routed downstream to the existing detention system. See sheets C3.0, C7.1 for

#### location, details and specifications of the stormwater routing and management. SEQUENCE DESCRIBING STORMWATER

し仕/MEASURE IMPLEMENTATION: The implementation sequence can be found under item B(12) on this sheet. Final (post construction) stormwater quality measures will be implemented as the installation of subsurface utilities, grading and pavement is finalized. The Stormwater Quality BMP (AquaSwirl Xcelerator), serving as the primary post construction stormwater quality measures, providing the needed 50% TSS removal as a stormwater quality BMP. The existing wet detention pond provides the remaining TSS removal.  $\cap$   $\subseteq$   $\setminus$  MAINTENANCE GUIDELINES FOR PROPOSED POST-CONSTRUCTION STORMWATER MEASURES:

An Operations & Maintenance Manual has been provided for the Stormwater Quality BMPs (AquaSwirl Xcelerator). Remove all trash or debris collected above inlet castings and within the storm sewer infrastructure. The pavement should be swept and kept free of sediment carried in by vehicles. A dry absorbent material such as "kitty litter" or "floor dry" should be used to soak up liquids left behind by vehicles. Keep all turf and trees well irrigated to promote vigorous growth. The maintenance for the proposed post—construction water quality measures will be provided for by the property owner.

#### \ ENTITY THAT WILL BE RESPONSIBLE FOR THE OPERATION $\bigcirc \bigcirc \bigcirc \bot$ & MAINTENANCE OF THE STORMWATER MEASURES: The maintenance for the proposed post-construction Stormwater Quality BMP (AquaSwirl

DAVE CRAVENS BDC REALTY GROUP, LLC 6274 SOUTH FOX CHASE

PENDLETON, INDIANA 46064

(765) 635-5559

Xcelerator) will be provided for by the property owner

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PROJECT NUMBER BRG.008 DRAWING NUMBER

SHEET 7 OF 24

#### TOPOGRAPHIC & BOUNDARY NOTE

ALL EXISTING HORIZONTAL AND VERTICAL INFORMATION HAS BEEN SHOWN PER A TOPOGRAPHIC SURVEY DATED 03/11/2024 PREPARED BY CROSSROAD ENGINEERG, P.C.; THEREFORE, CIVIL SITE GROUP, INC. CANNOT BE HELD RESPONSIBLE IF ACTUAL HORIZONTAL AND VERTICAL DATA IS DIFFERENT FROM THAT SHOWN ON THESE PLANS. CONTRACTOR IS RESPONSIBLE FOR FIELD VERIFICATION OF ALL EXISTING CONDITIONS PRIOR TO COMMENCING WITH CONSTRUCTION.

#### **UTILITY CROSSINGS UNDER PAVEMENT**

ALL UTILITY CROSSINGS UNDER PAVEMENT MUST BE JACK & BORE OR DIRECTIONAL DRILLED. OPEN CUTS SHALL NOT BE PERMITTED.

#### NOTE

UTILITY WORK WITHIN THE EXISTING RIGHT-OF-WAY OR WITHIN 5' OF EXISTING R/W PAVEMENT REQUIRES FLOWABLE FILL

#### FLOOD NOTE

THIS LOT LIES ENTIRELY IN FLOOD HAZARD ZONE "X" AS SCALED FROM THE FLOOD INSURANCE RATE MAP (FIRM) FOR HANCOCK COUNTY, INDIANA, COMMUNITY NUMBER 180468, MAP NUMBER 18059C0016D, PANEL NUMBER 0016 D, DATED DECEMBER 4,

REFERENCE NFIP FIRM MAP #18059C0016D, EFFECTIVE DATE: DECEMBER 4, 2007

## UTILITY VALVE NOTE

ALL UTILITY VALVES AFFECTED BY CONSTRUCTION SHALL BE ADJUSTED TO FINAL GRADE AS NEEDED TO BE FLUSH WITH FINISHED PAVEMENT, SIDEWALK OR LANDSCAPE AREA.

Domestic Water / Fire Service:

Section 1.13 of the Water Standards.

lateral permit has been approved

Service Line Requirements:

service lines is maintained.

Domestic Service:

**CITIZENS ENERGY NOTES:** 

All work must be completed by a bonded Contractor according to

2. The water/fire service permit cannot be approved until the sanitary

3. Please note that open cutting the asphalt path and the method of

4. Ensure that a minimum of a 10' horizontal separation and an 18"

5. A sewer and water crossing must be at a minimum of 45 degrees.

6. Please note that copper or ductile iron pipe must be run from 5 feet

7. Please note that open cutting the asphalt path and the method of

outside of the building footer into the building to the meter setup.

restoration is subject to the City's approval, not Citizens.

vertical separation between sewer lines (sanitary or storm) and the water

restoration is subject to the City's approval, not Citizens.

#### UTILITY LOCATE NOTE

INDIANA 811 FAILED TO LOCATE ALL EXISTING UTILITIES ON AND/OR SURROUNDING THE SUBJECT SITE; THEREFORE, CONTRACTOR IS RESPONSIBLE TO LOCATE AND FIELD VERIFY ANY EXISTING UTILITIES BEFORE COMMENCING WITH CONSTRUCTION. CIVIL SITE GROUP, INC. CANNOT BE HELD RESPONSIBLE IF THE PROPOSED IMPROVEMENTS INTERFERE WITH ANY EXISTING UTILITY INFORMATION NOT SHOWN ON THESE PLANS.

## **IRRIGATION NOTE**

SITE IRRIGATION IS NOT SHOWN ON THESE PLANS. IF SITE IRRIGATION IS REQUIRED, CONTRACTOR SHALL WORK WITH THE LOCAL WATER UTILITY TO DETERMINE THE REQUIREMENTS & LOCATION FOR THE IRRIGATION METER & SITE IRRIGATION SYSTEM

# Know what's below. Call before you dig.

#### NOTE

REFER TO ARCHITECTURAL 8 FOUNDATION PLANS FOR ALL

BUILDING DIMENSIONS.

#### Fire Service:

Please submit for a hydrant flow request: https://www.citizensenergygroup.com/For-Partners/Contractors-Builders/ Permits-and-Forms/Hydrant-Flow-Test.

#### Sanitary Sewer Lateral Service:

1. Full depth granular backfill required under pavement. Refer to Fig. 400.01 on Sheet C7.3.

2. Ensure that a minimum of a 10' horizontal separation and an 18" vertical separation between sewer lines (sanitary or storm) and the water service lines is maintained

3. Sewer lateral and utility crossings must be at a minimum of 45 degrees horizontal. 4. Cleanouts installed in paved areas must have a heavy duty casting to

withstand traffic loading. Refer to Fig 400.10 on Sheet C7.3. 5. Tracer wire required to be attached to sewer laterals per Citizens Westfield Stds.

#### **GENERAL NOTES**

- TEMPORARY TRAFFIC CONTROL DURING CONSTRUCTION TO CONFORM TO APPLICABLE LOCAL AND STATE STANDARDS.
- ALL CONSTRUCTION ACTIVITY ON THIS SITE TO BE PERFORMED IN COMPLIANCE WITH APPLICABLE O.S.H.A. STANDARDS FOR WORKER
- IT SHALL BE THE CONTRACTORS RESPONSIBILITY TO FIELD VERIFY ALL UTILITY LOCATIONS & DEPTHS BEFORE CONSTRUCTION BEGINS.
- 4. IT SHALL BE THE CONTRACTORS RESPONSIBILITY TO FIELD VERIFY ALL EXISTING ELEVATIONS BEFORE CONSTRUCTION BEGINS.

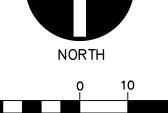
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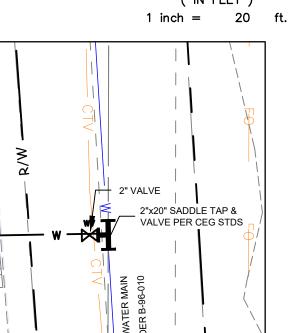
BUILDING (CTS POLY

AWWA PE3408 SDR 9)





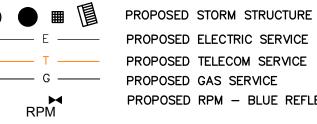
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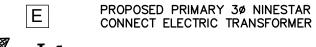
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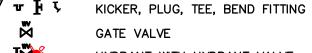
## LEGEND:

PROPERTY BOUNDARY PROPOSED STORM SEWER



PROPOSED ELECTRIC SERVICE PROPOSED TELECOM SERVICE PROPOSED GAS SERVICE PROPOSED RPM - BLUE REFLECTOR





HYDRANT WITH HYDRANT VALVE

6" SAN. LATERAL CLEANOUT-CLEANOUTS INSTALLED IN PAVED AREAS MUST HAVE A HEAVY DUTY CASTING TO WITHSTAND TRAFFIC LOADING. REFER McCORDSVILLE DETAIL SHEETS 8-10

#### **PLAN NOTES:**

- (A) LIGHT POLE FOUNDATION (REFER TO LIGHTING PLAN)
- 15 $\pm$  LF OF 6-INCH SDR35 PVC (ASTM D-3034) @ 1.04% MIN. WITH TRACER WIRE ATTACHED PER MCCORDSVILLE STDS. REFER
- 26± LF OF 6-INCH SDR35 PVC (ASTM D-3034) @ 1.04% MIN. WITH TRACER WIRE ATTACHED PER MCCORDSVILLE STDS. REFER
- 92± LF OF 6-INCH SDR35 PVC (ASTM D-3034) @ 1.04% MIN. WITH TRACER WIRE ATTACHED PER MCCORDSVILLE STDS. REFER
- 10 FOOT HORIZONTAL & 18-INCH VERTICAL SEPARATION REQ'D. BETWEEN SEWER (SANITARY OR STORM) & WATER
- EXISTING 30 120/208V ELECTRIC TRANSFORMER BY NINESTAR CONNECT
- 3/4-INCH METER PIT PER CEG STDS. RPZ TO BE SET INSIDE BLDG.
- RÉFER TO CEG STD. PRACTICE T
- 2-INCH I.D. COMMON DOMESTIC WATER SERVICE LINE (CTS POLY AWWA, PE3408 SDR9);
- REFER TO CEG STD. PRACTICE N
- TELECOM SERVICE 4-INCH PVC CONDUIT (QTY 2)
- 1000 GALLON (MIN) GREASE TRAP. REFER TO McCORDSVILLE DETAIL SHEET 8 & DETAIL SHEET C7.1
- SAMPLING STRUCTURE DOWNSTREAM OF GREASE TRAP PER

- (UX) UTILITY CROSSING

SITE LIGHTING NOTE

SITE LIGHTING IS NOT SHOWN ON THESE PLANS. 2-11/4"

CONDUITS (SITE LIGHTING & SECURITY) REQUIRED TO ALL PARKING LOT LIGHT POLE LOCATIONS. ALL CONDUIT RUNS

GRANULAR BACKFILL TO PAVEMENT SUBGRADE - PLOWED

OR RAKED INSTALLATION OF CONDUITS ARE PROHIBITED

SHALL BE TRENCHED INSTALLED WITH COMPACTED

- McCORDSVILLE DETAIL SHEETS 8 & 9
- McCORDSVILLE DETAIL SHEETS 8 & 9
- McCORDSVILLE DETAIL SHEETS 8 & 9
- CONCRETE CRADLE REQ'D. BETWEEN PIPES
- SERVICE LINES

- 1-INCH I.D. COMMON DOMESTIC WATER SERVICE LINE (CTS POLY AWWA, PE3408 SDR9)
- (BF) RPZ BACKFLOW TO BE SET INSIDE BLDG. PER CEG STDS.

# McCORDSVILLE STDS.

- VERIFY ALL EXISTING UTILITIES AND CONDITIONS
  PERTAINING TO THEIR PHASE OF WORK. IT SHALL ALSO BE THE CONTRACTOR'S RESPONSIBILITY TO CONTACT THE OWNERS OF THE VARIOUS UTILITIES FOR PROPER STAKE LOCATIONS FOR EACH UTILITY BEFORE WORK IS STARTED. THE CONTRACTOR SHALL NOTIFY IN WRITING THE OWNER OR THE ENGINEER OF ANY CHANGES, OMISSIONS, OR ERRORS FOUND ON THESE PLANS OR IN THE FIELD BEFORE WORK IS STARTED OR
- AGENCY SHALL APPLY FOR ALL SANITARY SEWERS, STORM
- ANY PART OF THE SANITARY OR STORM SEWER TRENCHES RUNNING UNDER PAVED AREAS TO BE BACKFILLED WITH GRANULAR MATERIAL.
- ALL WATER MAINS TO HAVE 60" MINIMUM COVER OVER
- (APPLIES TO COMMERCIAL ONLY) CONTRACTOR RESPONSIBLE TO INSTALL ALL UNDERGROUND CONDUIT PER UTILITY COMPANY'S SPECIFICATIONS.

SEPARATION LESS THAN 18 INCHES.

AFFECTED DURING CONSTRUCTION. REFER TO THE TOWN OF FISHERS STANDARDS FOR RESTORATION REQ'S. CONTRACTOR TO LOCATE ALL EXISTING UTILITIES AT ANY PROPOSED CROSSING AND PROVIDE EXISTING TOP OF PIPE ELEVATIONS WITHIN 10 DAYS OF NOTICE TO PROCEED.

**UTILITY NOTES** 

1. IT SHALL BE THE RESPONSIBILITY OF EACH CONTRACTOR TO

STANDARD SPECIFICATIONS FOR THE LOCAL GOVERNING SEWERS, AND WATER MAINS.

STERILIZATION OF WATER MAIN SHALL BE IN ACCORDANCE WITH STATE BOARD OF HEALTH REQUIREMENTS.

DRAWING NUMBER **C5.0** PROVIDE CONCRETE CRADLE AS REQUIRED FOR ANY VERTICAL SHEET 8 OF 24

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STATE OF

DATE: 10/02/2025

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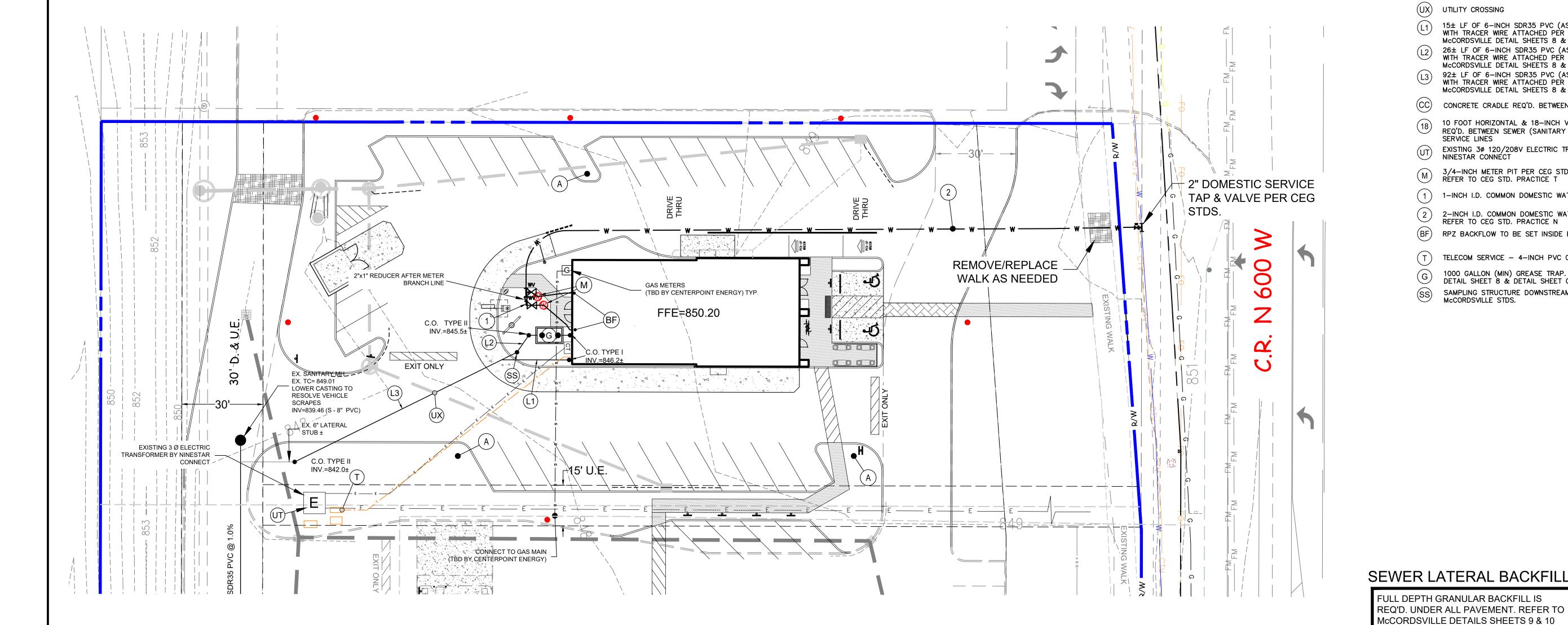
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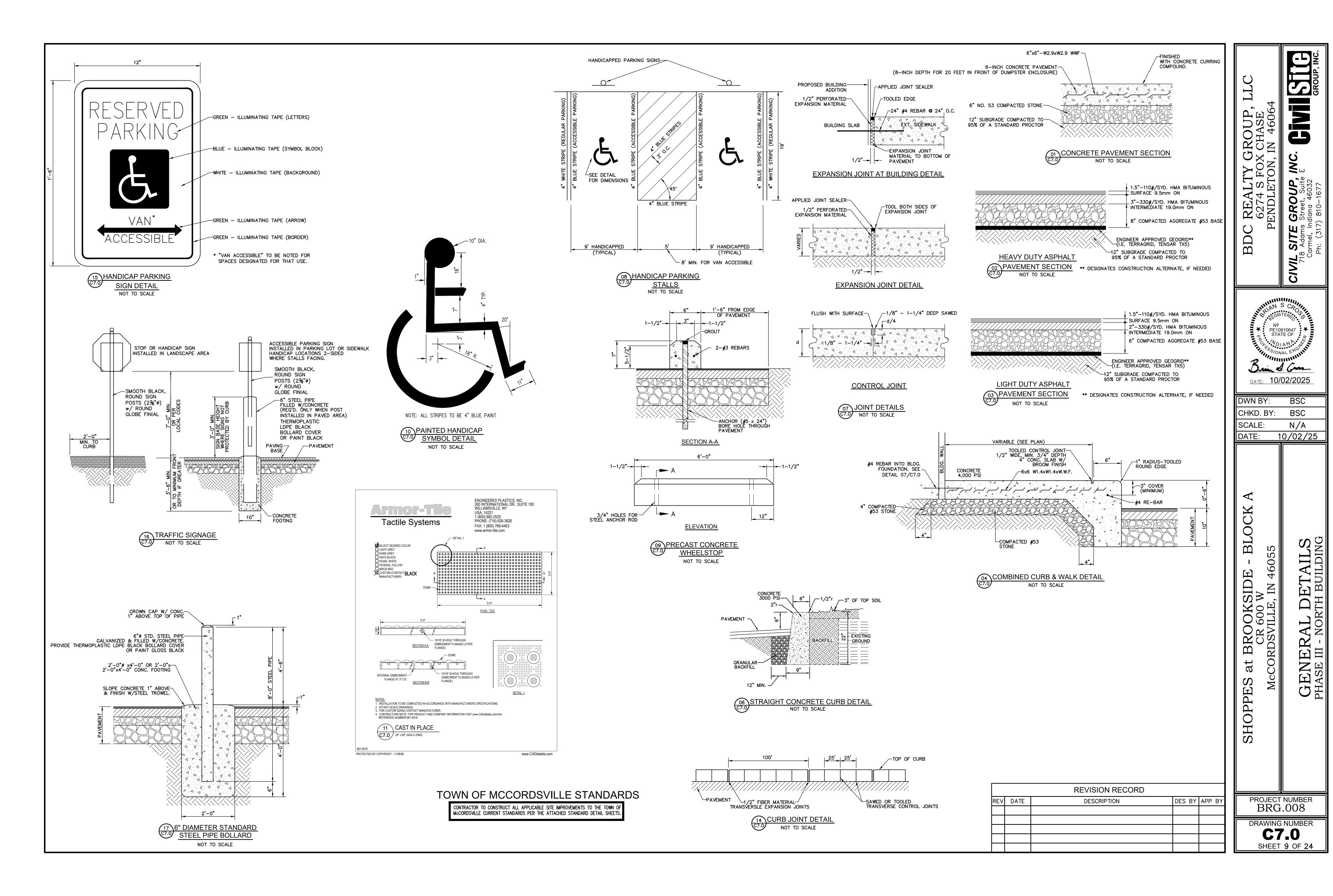
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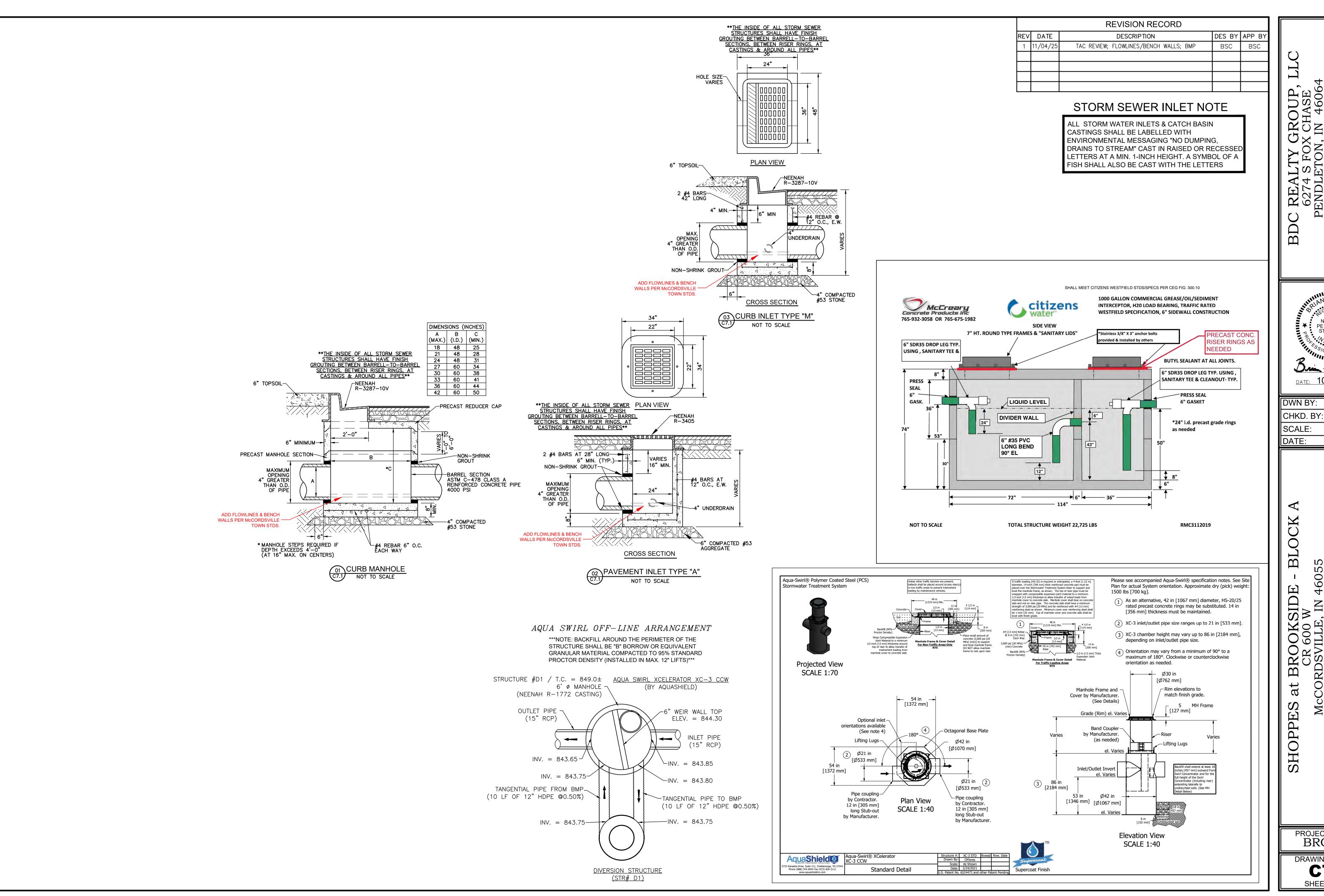
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1" = 20'

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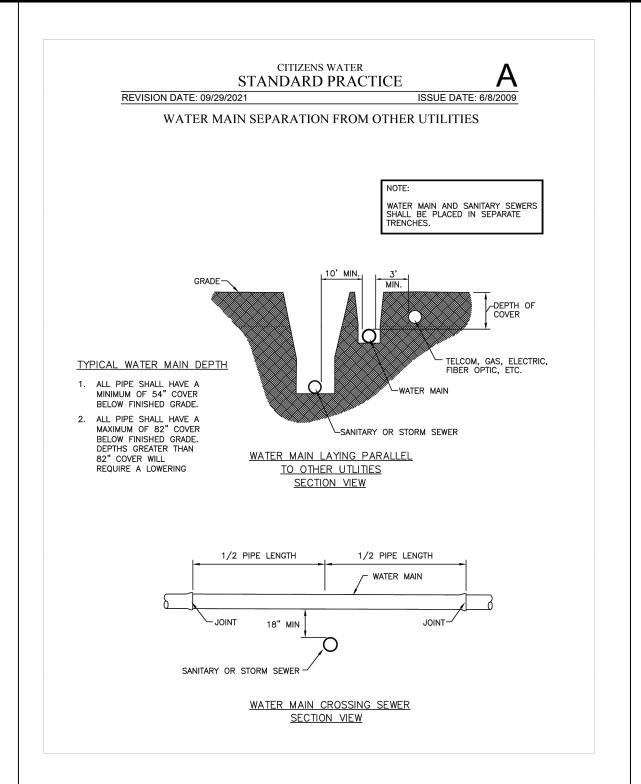
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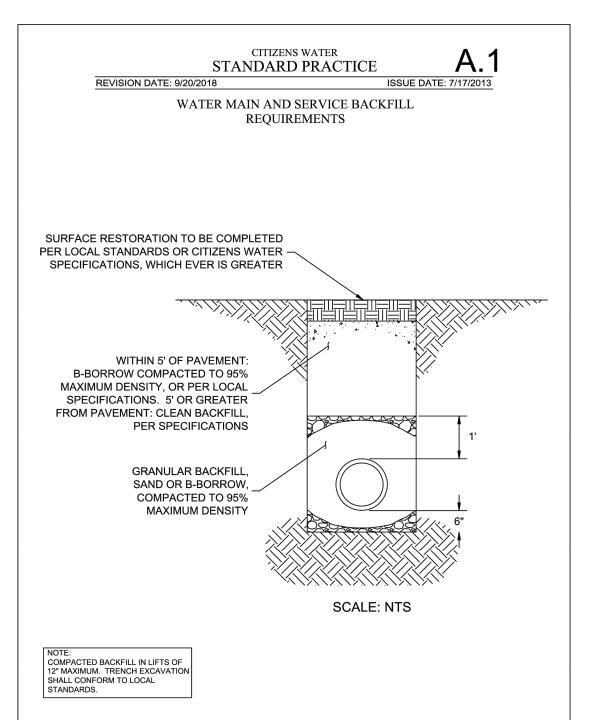
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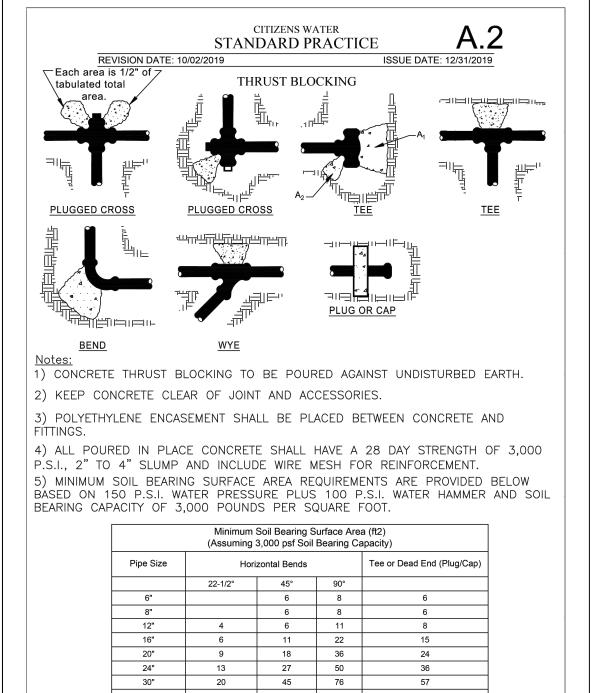
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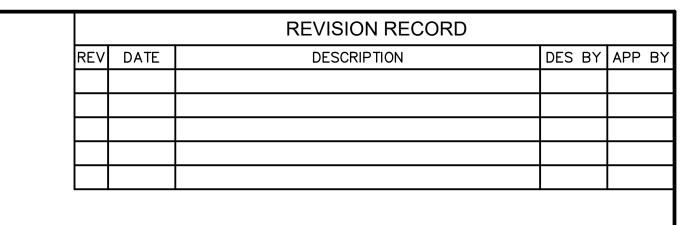
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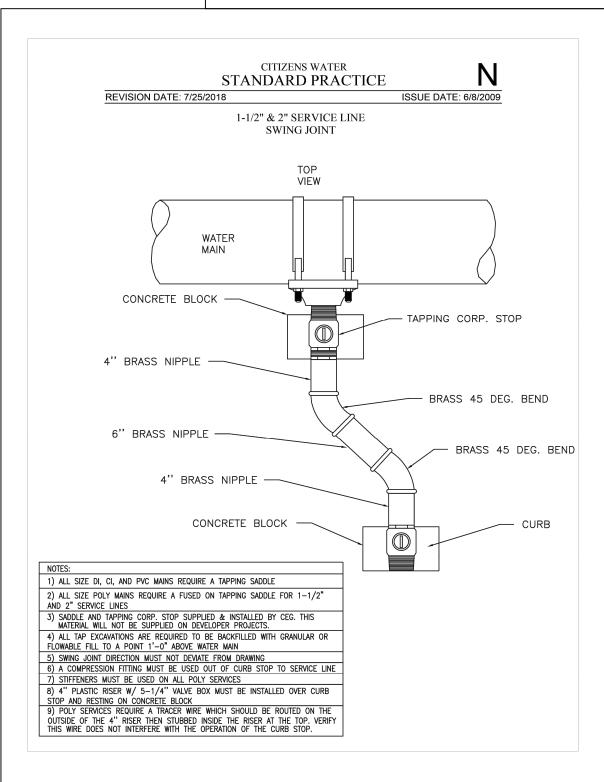
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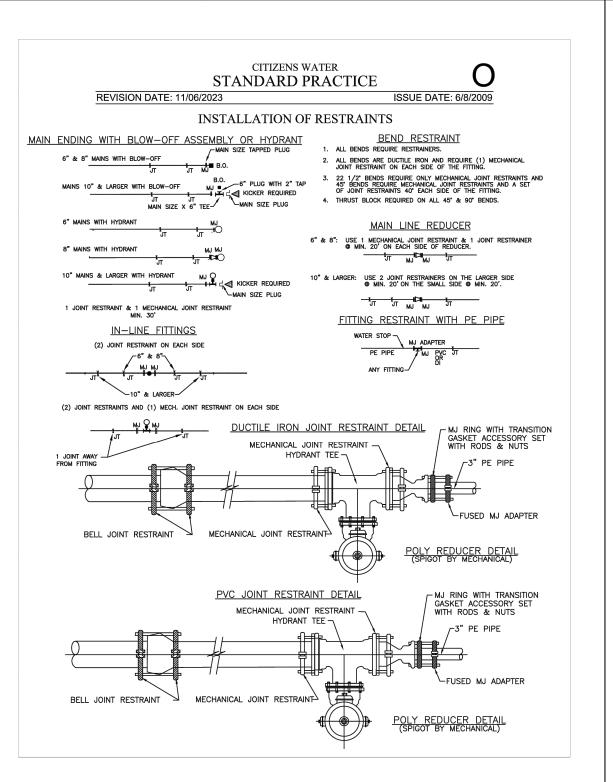


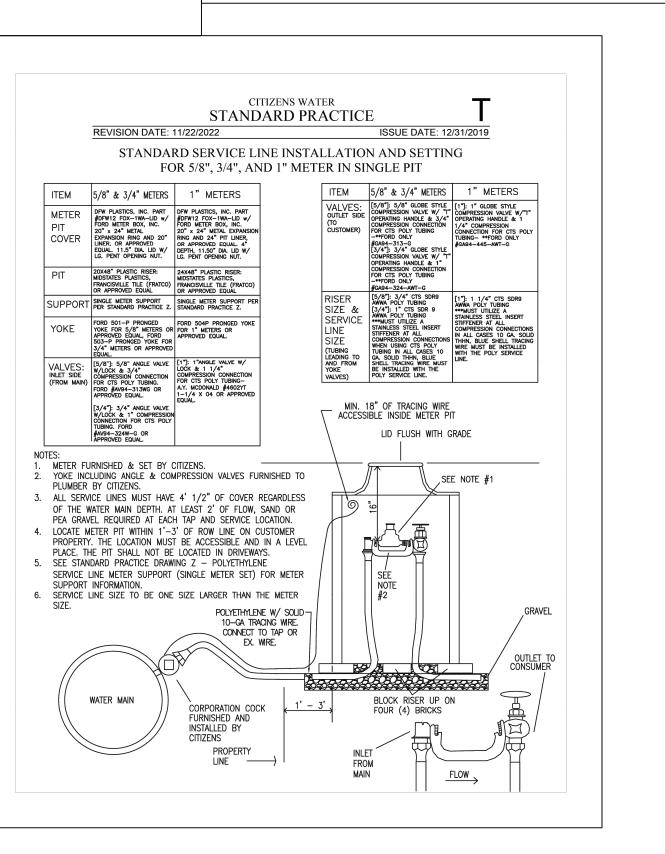




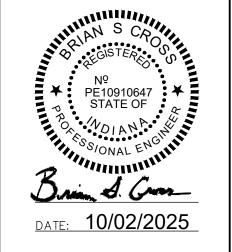








CITIZENS ENERGY GROUP WATER STANDARDS MANUAL, LATEST EDITION (JANUARY 2025), SHALL BE USED FOR ALL WATER SERVICE MATERIALS AND INSTALLATION ASSOCIATED WITH THESE CONSTRUCTION DOCUMENTS BDC REALTY GROUF 6274 S FOX CHASE PENDLETON, IN 460



DWN BY: BSC
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McCORDSVILLE, I
CITIZENS ENERGY
WATER SERVICE

PROJECT NUMBER BRG.008

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C7.2

SHEET 11 OF 24

1. In general, the items of work to be performed under this section shall include clearing and grubbing, removal of trees and stumps (where required), protection of trees remain, stripping and storage of topsoil, ill compaction and rough grading of entire

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 ocation of dump and length of haul shall be the Contractor's responsibility.

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 auglity as specified for fills herein

and the source approved by the Owner.

- The Contractor shall accept the site as he finds it and shall remove all trash, rubbish and debris from the site prior to starting
- Work not included: The following items of related work are specified and included in other sections of these specifications:
- Excavation, grading and backfilling for
- 2. Storm drainage systems
- 3. Sanitary sewer systems 4. Streets and paving
- 5. Water supply system BENCH MARKS

Maintain carefully all bench marks, monuments and other other reference points; if disturbed or destroyed, Contractor shall contact engineer. Replacement shall be at Contractor's expense.

#### 3. REMOVAL OF TREES

- Remove all trees and stumps from area to be occupied by road and surfaced areas. Removal of trees outside these areas shall only be done as noted on drawings or approved by the Owner.
- All brush, stumps, wood and other refuse from the trees shall be removed to disposal areas off of the site. Disposal by burning shall not be permitted unless proper permits are obtained (where applicable). The location of on-site bury pits shall be approved by the owner and the naineer if permitted.

#### 4. PROTECTION OF TREES

A. General Protection: The Contractor shall be responsible for the protection of tops, trunks and roots of existing trees on the project site that are to remain. Existing trees subject to construction damage shall be boxed, fenced or otherwise protected before any work is started; do not stockpile within branch spread. Remove interfering branches without injury to trunks and cover scars with tree paint.

#### 5. 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 reasonably free from ubsoil, debris, weeds, grass, stones, étc.
- B. After completion of site grading and subsurface utility installation, top soil shall be replaced in areas designated on the erosion control plan fo seeding and/or sod. Any remaining topsoil shall be used for finished grading around structures and landscaping areas.

#### 6. DISPOSITION OF UTILITIES:

- A. Rules and regulations governing the respective utilities shall be observed in executing all work under this section.
- shown on the drawings, the Engineer shall be advised before work is continued Inactive and abandoned utilities encountered in

B. If active utilities are encountered but not shown

- 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 verify all existing utilities and conditions pertaining to his phase of the work. It shall also be the contractors responsibility to contact the owners of the various utilities before work

#### 7. SITE GRADING:

- 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.
- 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 top and bottom.
- C. Compaction Requirements:
- 1. All areas under building pads and paved areas shall be compacted to 98% standard proctor density. 2. All other fill areas shall be compacted to 90% standard proctor density.
- All areas where cut is necessary to meet the design sub-grade are required to be scarified 12 inches below sub-grade and meet the above compaction requirements.

#### 8. 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
- 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 the Engineer in determining earthwork quantities shall be accomplished 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 of the various soil types, the allowable variation in finish grade and compaction permitted the contractor, and that all of these parameters may couse either an excess or shortage of actual earthwork materials to complete the project lf such an actual minor excess or sh'ortage of materials occurs, the contractor shall contact the Engineer to determine if adjustment can be made to correct the imbalance of earth.

#### TESTING

A. Contractor shall hire at Contractors expence an independent soil testing service to assure soil compaction with scope of testing to be approved by Engineer. Copies of test results shall be submitted to the Engineer.

#### 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 five feet outside the building walls. The ends of sewers shall be tightly plugged or capped at the terminal points, adjacent buildings, pending the connecting of all such lines to the building drain as specified in the plumbing and architectural drawings. One set of "approved" plans shall be on the job site at all times.

#### 2. MATERIALS

A. Polyvinyl Chloride Pipe (PVC)

6"-15" PVC pipe shall be SDR 35 and conform to ASTM D3034, with a minimum cell classification of 12454 or 12364. Greater than 15" PVC pipe shall conform to ASTM F679, with a minimum cell classification of 12454-C.

All fittings and joints shall be compression type flexible gasketed joints, and manufactured and installed in accordance with the pipe manufacturer's specifications. No solven cement joints shall be allowed.

#### B. Ductile Iron Pipe

1. Ductile iron (DI) pipe must meet ASTM A-746 or AWWA C151 with exterior asphaltic coating per AWWA C151 and interior asphaltic coating meeting AWWA C151 or polyethylene lining complying with ASTM D-1248 of nominal 40 mil thickness. Thickness design must be in accordance with AWWA C150.

Joint on DI pipe must be the integral bell type gasketed ioint meeting AWWA C111 mechanical joint (MJ) meeting AWWA C111, or ANSI 125 lb. flanged joint. Accessories for mechanical and flanged joints must be alloy steel "T"—head bolt and hex nut of Coarce Thread Series Class 2A (External) and Class 2B (Internal) per ANSI B1.1.

#### C. Manholes

1. Precast reinforced concrete manhole sections and steps and concrete adjusting rings shall conform to ASTM C-478 latest revision. Exterior of manhole shall be waterproofed with Bismatic

Castings shall be of uniform quality, free from blow holes, porosity, hard spots, shrinkage distortion or other defects. They shall be smooth and well-cleaned by shotblasting or by some other approved method. They shall be coated with asphalt paint which shall result in a smooth coating, tough and tenacious when cold, not tacky or brittle. They shall be gray iron meeting ASTM A-48 latest revision. Manhole covers for sanitary sewer shall be Neenah Type R-1077-A w/R-1712-B-SP Frame w/Self-Sealing application. Joints — Manhole sections shall be joined with a nominal 1/2" size butyl rubber rubber base gasket material, conforming to AASHTO M—198 and Federal Specification SS—S—210a. Joint conforms to ASTM C-443.

4. Manholes shall include steps. Manhole steps shall be polypropylene coated steel reinforcing or an approved non-corrosive fiberglass material. The copolymer polypropylene shall meet the requirements of ASTM D-4101 with deformed 3/8" dia. or larger reinforcing steel conforming to ASTM A-615, Grade 60. Steps shall be a maximum of 18" from top, 24" from bottom and 'spacing between.

5. Manholes shall be bedded on a granular foundation. The granular foundation shall be compacted with vibratory tamps.

#### 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 regulation's as amended by any waivers. Contractor shall furnish all bonds necessary to get permits for cuts and connections to existing sewers. The Contractor shall be responsible for obtaining or verifying all permits for all or portions of this project prior to starting construction. The Contractor shall notify the local or county inspector or utility superintendent 48 hours prior to commencement of sanitary construction.
- 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 Maintain in operating conditiŏn a'll active utilities, sewers anḋ other drains encountered in the sewer installation. Repair to the satisfaction of the owner any damage to existing active improvements.
- Workmanship To 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 or jacking of pipe. Open the trench sufficiently ahead of pipe—laying to reveal any obstructions. The width of the trench shall be the inside pipe diameter plus 24 inches for 13 inches above the pipe. Sheet and brace the trench as necessary to protect workmen and adjacent structures. All trenching to comply with ccupational Safety and Health Administration tandards. Open trenches shall be properly protected and/or barricaded when left unattended Keep trenches free from water while construction is in progress. Under no circumstances shall pipe or appurtenances be laid in standina water Conduct the discharge from trench dewatering 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 for a depth of at least 12 inches above the top of the pipe, backfill with 12" of 8 crushed stone or #8 fractured face aggregate mpact this backfill "thoroughly, taking care not disturb the pipe. For the remaining trench depth backfill with earth or granular material containin stones or rocks not larger than 4 inches. Backfil under and within 5' of walks, parking areas, driveways and streets shall be granular material only — thoroughly compacted, by approved methods.
- H. Flow Channels The flow channels within manholes shall be an integral part of the precast base. he channels shall be shaped and formed for a clean transition with proper hydraulics to allow the smooth conveyance of flow through the manhole ne bench wall shall be formed to the crown of the inlet and outlet pipes to form a "U" shaped channel. The bench wall shall slope back from the crown at 1/2 inch per foot to the manhole wall. No brick, rock or sand fillers will be allowed.
- Infiltration The contractor shall furnish necessary equipment to test sewers for infiltration. 'Infiltration rates shall not exceed the Local Standards. All sanitary sewer lines upon completion will be required to pass a low pressure air test, unless otherwise directed by the City Engineer. Said test shall be conducted according to NCPI Standard Method, and shall be witnessed by an inspector authorized by the City Engineer. Infiltration under test shall not exceed 100 gallons per inch of inside diameter of sewer pipe per mile of sewer in 24 hours and is inclusive of all appurtenances within the section being tested such s manholes, house connections, etc. Any portions not passing said tests for acceptance shall be repaired or replaced, including re-excavation and backfill, at the Contractor's expense.
- J. Flushing Sewers Flush all sanitary sewers except building sewers with water to obtain free flow through each line. Remove all silt and trash from appurtenances just prior to acceptance of work.
- K. Plastic Sewer Pipe Installation Plastic sewer pipe shall be installed in accordance with ASTM D2321 per latest revision, and no plastic pipe shall exceed an 11 point mandrel test deflection of 5%. All sewer mains shall be lamped at the time the mandrel test is conducted. All mains shall be true to alignment and grade. 327 IAC 3-6-19(a) requires that a deflection test shall be performed on each flexible pipe following the elapse of thirty (30) days after the placement of the final backfill. 327 IAC 3-6-19(c) requires that the diameter of the rigid ball or mandrel used for a deflection test shall be no less than ninety-five percent (95%) of the base inside diameter of the pipe to be tested dependent on what is specified in

the corresponding ASTM standard. Also, the test shall not

be performed with the aid of a mechanical pulling device.

- 1. 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.
- M. Waterline Crossing Water and sewer line crossings and separations shall be in accordance with Ten States Standards and local and state codes. Waterlines and sanitary sewers shall maintain o minimum of 10 foot horizontal separation and a minimum 18 inches of clearance between pipes at crossings. Otherwise, sanitary sewer within 1 et of waterlines shall be constructed of water works grade Ductile Iron Pipe with mechanical joints and fittings. One length of sewer pipe should be centered at the waterline crossing so that no joint is closer than 10 feet to
- N. Utilities It shall be the responsibility of each contractor to verify all existing utilities and conditions pertaining to his phase of the work. It shall also be the contractors responsibility to contact the owners of the various utilities before work is started. The contractor shall notify in writing the owners and the engineer of any changes, errors or omissions found on these plans or in the field before work is started or resumed.
- 0. Service Laterals Individual building service 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 by a wye at locations generally shown within these plans. Service lines shall be extended to a distance of 5 feet beyond the right-of-way line and within 5'-8' of the existing ground surface. The ends shall be plugged and sealed with a water tight cap. Sewer service lines shall be marked with a 2"x4" painted green and extending from the lateral end to 3 above grade.
- P. New Sanitary Sewer Main Construction Contractor shall record length and dimensions of each service line stub from nearest downstream manhole measure along the sanitary sewer main. The locations of manholes and service lines along with any other construction changes are to be incorporated on the original construction drawings as "as-built locations and submitted to the Engineer as soon after completion of construction as possible, not
- Q. Field Testing All manholes must be vacuum tested after installation, repair or modification in accordance with ASTM C1244-93, Standard Test Method for Concrete Sewer Manholes by Negative Air Pressure (Vacuum) Test.

#### TOWN OF MCCORDSVILLE STANDARDS

CONTRACTOR TO CONSTRUCT ALL APPLICABLE SITE IMPROVEMENTS TO THE TOWN OF MCCORDSVILLE, INDIANA STORM WATER TECHNICAL STANDARDS MANUAL INCORPORATED BY REFERENCE AND CURRENT INDOT STANDARDS/SPECIFICATIONS.

#### STORM SEWER SYSTEMS

#### SCOPE OF WORK

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. All work and materials shall meet local specifications.

#### MATERIALS

A. Storm Sewers

Reinforced concrete sewer pipe shall conform to ASTM C-76 latest revision, with joints conforming to ASTM C-443 latest revision when storm pipe is located within public right—of—way.

2. Aluminized type 2 corrugated steel pipe shall be manufactured in accordance with AASHTO M36 (type I with 2 2/3" x 1/2" corrugations for 12" and 15" diameters; type IR with 3/4" x 3/4" x 7 1/2" corrugations for 18" diameter and larger). The pipe shall be formed from an aluminized steel type 2 coil that conforms to AASHTO M274. The minimum gage thickness of the pipe shall be as follows: <u>Diameter</u>

3. High density polyethylene pipe shall perform to AASHTO M252 and M294 Type S specifications, latest revision, and shall have material specifications conforming to ASTM D1248 or D3350, latest revision.

Precast reinforced concrete manhole sections and steps shall conform to ASTM C-478 latest

Casting shall be of uniform quality, free from blow holes, porosity, hard spots, shrinkage distortion or other defects. They shall be smooth and well cleaned by shot blasting or by some other approved method. They shall be coated with asphalt paint which shall result in a smooth coating. tough and tenacious when cold, not tacky or They shall be gray iron meeting ASTM A-48 latest revision.

Joints — Manhole sections shall be jointed with rubber type gaskets. The rubber type gaskets shall meet ASTM C-443 latest revision. When manhole and storm pipe are continuously in water.

4. Shop Drawings — Contractor to submit storm sewer structure precast drawings to engineer for approval prior

## C. SUBDRAINS

1. Perforated plastic pipe subdrains shall conform to ASTM F-405, AASHTO M-252 (4" to 10" pipe). 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. Contractor shall notify the local governing jurisdiction a minimum of 72 hours prior to the commencement of storm sewer construction.
- 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 Maintain in operatina condition all active utilities, sewers and other drains encountered in the sewer installation Repair to the satisfaction of the owner any damage to existing active improvements.
- D. Workmanship To conform to all local, state and national codes and to be approved by all local and
- state agencies having jurisdiction. Trenching — Lay all pipe in open trenches, except when the local authority gives written permission for tunneling. Open the trench sufficient a<u>h</u>ead of pipe laying to reveal any obstructions. The width of the trench shall be the inside pipe diameter plus 24 inches for 12 inches above the pipe. Sheet and brace trench as necessary to protect workmen and adjacent structures. renching to comply with Occupational Safety and Health Administration Standards. Keep trenches free from water while construction is in progress. Under no circumstances lay pipe or appurtenances in standing water. Conduct the discharge from trench dewatering to drains or natural drainage
- Special Supports Whenever in the opinion of the Enaineer 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 for a depth of at least 12 inches above the top of the pipe, backfill with earth or granular material free from large stones, rock fragments, roots or sod. Tamp this backfill thoroughly, taking care not to disturb the pipe For the remaining trench depth, backfill with earth or granular material containing stones or rocks not larger than 4 inches. Backfill under and within 5 of paved areas shall be granular material only and shall conform to local standards 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 in direction by true curves. Provide such channels for all connecting sewers at each manhole.
- 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.
- Utilities It shall be the responsibility of each contractor to verify all existing utilities and conditions pertaining to his phase of the work. It shall also be the contractors responsibility to contact the owners of the various utilities before work is started. The contractor shall notify in writing the owners or the engineer of any changes, errors or omissions found on these plans or in the field before work is started or resumed.

#### STREETS AND PAVING

#### 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 drawings and described in the specifications, including but not

#### All streets, parking areas in contract limits Curbs and autters. Sidewalks and concrete slabs, exterior steps.

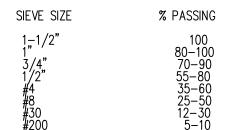
#### MATERIALS

A. Concrete — Concrete shall be ready—mixed concrete and shall be a mix of proportioned fine and coarse aggregates with Portland cement and water. Mĭnimum cement content shall be 6 bags per cubi yard of concrete and maximum water content shall be 5.5 U.S. gallons per sack of cement, including moisture in the aggregate. Slump for normal weight concrete shall be a maximum of 4 inches and a minimum of 2 inches. The slump of machine place concrete shall be no less than 1-1/4 inches no more than 3 inches. Standard test ASTM C-143 shall be used to measure slump. Compressive strength of concrete at 28 days shall be 4000 ps exterior concrete shall have air entrainment b 5% to 8% by volume per ASTM C-260. Retempering delivered cońcrete will' not be allowed. Concret'e shăl be composed of:

Portland cement - Conforming to ASTM C-150,

2. Aggregates: Conforming to ASTM C-33 Water — Shall be clear and free from injurious amounts of oils, acids, alkalis, organic materials or other deleterious substances.

- B. Welded Steel Wire Fabric Where required for concrete reinforcement shall conform to ASTM A185.
- Premoulded Joint Filler Shall be of non—extruding type meeting ASTM D—544 except that premoulded joint filler used in concrete walk construction may be either non-extruding or
- D. Bituminous Pavement Materials All materials proposed for the construction of bituminous pavements shall comply with the Indiana Department of Transportation specifications, per latest
- Compacted Aggregate Subbase: Shall be crushed stone or gravel. Crushed gravel shall be a minimum of 35% crushed material. Chert shall be limited to a maximum of 8% of the total. Material shall be free from an excess of flat, elongated. thinly laminated, soft or disintegrated pieces; and shall be free from fragments coated with dirt Compacted aggregate shall be graded as follows:



#### 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 improvement.
- 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.
- Compaction of Subgrade The first 12 inches below the subgrade shall be compacted to at least 100% of the maximum dry density as determined by the provisions of AASHTO T-99. Water shall be prevented from standing on the compacted subgrade. A qualified geotechnical engineer shall be retained by contractor to observe and document a subgrade proof roll (Tri-Axle Truck loaded with aggregate). Contractor shall mediate all areas that fail proof roll and re—test as needed until passed by geotechnical engineer.
- D. Compacted Aggregate Subbase the thickness shown on the drawings is the minimum thickness of the fully compacted subbase. Compaction shall be accomplished by rolling with a smooth wheeled roller weighing 8 to 10 tons. Compact to 95% standard proctor density (ASTM D698) Along curbs, headers and walls and at all placed not accessible to the roller, the aggregate material shall be tamped with mechanical tampers or with approved hand tampers.
- Bituminous Pavement Hot asphalt concrete pavement shall be as specified in Section 400-410 of the Indiana Department of Transportation Specifications latest revisions. Paving will not be permitted during unfavorable weather or when the temperature is not in compliance with section 401.05 of the INDOT Specifications.
- 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

#### G. 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 subarade.

tight enough to prevent leakage and substantial springing or settling, when concrete is placed. form release before placement of concrete.

Placing Concrete — Concrete shall be deposited so as to require as little the Indiana Department of Transportation Specifications latest revision shall be

#### DATE DESCRIPTION DES BY APP BY

REVISION RECORD

#### H. 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 20 feet on center.

3. Finish — Tamp and screed concrete as soon as placed, and fill any honey combed places. Finish square corners to 1/4" radius and other corners to radii shown.

intersections as necessary to provide proper

course construction and of widths and details shown on the drawings.

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 control joints at 5 foot spacing. Provide 1/2" expansion joints where sidewalks intersect, and at a maximum

J. Curing Concrete — Except as otherwise specified, cure all concrete by one of the methods described in Section 501.17 of the Indiana Department of Transportation Specifications, latest revision.

K. Finish Pavement Grade — The tolerance for paved areas shall not exceed 1/2-inch  $\pm$  from finished grade as shown on the design plan. Under no circumstances will "bird baths" holding 1/4—inch of stormwater be accepted by the engineer/owner and contractor will be required to repair/replace/repave the area at

COMPACTION / GEOTECH NOTE

DEPENDING ON SEASONAL PRECIPITATION AND THE MOISTURE

ACHIEVE THE NECESSARY COMPACTION SPECIFICATIONS.

CONTENT OF THE SOILS ON SITE, CHEMICAL MODIFICATIONS (LIME

STABILIZATION) OR ALTERNATIVE METHODS MAY BE REQUIRED TO

AS OF THE DATE OF THESE PLAN DOCUMENTS, A "SUBSURFACE

NOT BEEN PREPARED OR PROVIDED TO CIVIL SITE GROUP, INC.

INVESTIGATION & GEOTECHNICAL RECOMMENDATIONS REPORT" HAS

#### UTILITIES

#### WATER

A. All water mains shall be installed and tested in accordance

Gas mains shown in the plans are for information only. The local gas utility is responsible for final design and installation of new gas mains.

Electric, Telephone, and CATV lines shown in the plans are for information only. The local utility companies are responsible for final design and installation

#### 4. IDENTIFICATION / LOCATION

centerline of buried utilities.

#### A. Identification Tape

1. Inert Polyethylene with minimum thickness of 4-mils and shall have a 1-mil thick metallic foil core. Tape width shall be a minimum of 3—inches and a maximum of 6—inches. Imprinted text shall be "Caution Caution — Utility Buried Below" and should repeat itself once every 2 feet, for the entire pipe length. Install approximately 2 feet

#### or approved equal.

1. Location wire shall be a 10 gauge insulated, solid copper wire. The wire shall be contiguous with no fabricated, or field constructed

## connections interrupting the wires continuity from end to end of pipe.

## PER INDOT SPECIFICATION SECTION 215-"CHEMICAL MODIFICATION OF SOILS":

#### THIS WORK SHALL CONSIST OF THE MODIFICATION OF SOILS BY UNIFORMLY MIXING DRY PORTLAND CEMENT, FLY ASH, LIME, OR A COMBINATION OF THE MATERIALS WITH SOIL TO

- 215.03 TESTING AND MIX DESIGN 215.04 - STORAGE AND HANDLING
- 215.08 MIXING 215.09 - COMPACTION
- 215.11 BASIS OF PAYMENT
- 913.02 CALCIUM CHLORIDE 913.03 - SODIUM CHLORIDE 913.04 - LIME

Forms - All forms shall be free from warp. enough to maintain their shape and position without Forms shall be clean and smooth and coated with

rehandling as practicable. When concrete is to be placed at an atmospheric temperature of 35 degrees F. or less, paragraph 702.10 of

## I. Concrete Walks and Exterior Steps

1. Slopes — Provide 1/4 inch per foot cross slope. Make adjustments in slopes at walk

2. Dimensions — Walks and steps shall be one

spacing of 40 feet between expansion joints.

no additional cost to owner.

with local standards and requirements. Refer to Citizens Energy Group Water Standards Manual (January 2025)

OTHER UTILITIES

#### of their respective utility lines.

Furnish and install "Identification Tape" and "Location Wire" over the

below final grade over centerline of pipe. 2. "Terra Tape" as manufactured by Reef Industries, Inc., Houston, TX,

B. Location Wire

#### 2. Location wire shall be taped onto the top of the buried pipe.

## 215.01 - DESCRIPTION

AID IN ACHIEVING THE WORKABILITY OF SOILS HAVING AN EXCESSIVE MOISTURE CONTENT. 215.02 - MATERIALS

215.05 - WEATHER LIMITATIONS 215.06 - PREPARATION OF SOILS 215.07 - SPREADING OF CHEMICAL MODIFIERS

#### 215.10 - MEASUREMENT SECTION 913 -"SOIL TREATMENT MATERIALS 913.01 - WATER

EXTERIOR STEPS/HANDRAILS PER ADAAG 4.9 4.9.2 Treads and Risers. On any given flight of stairs, all steps shall have uniform riser heights and uniform tread widths. Stair treads shall be no less than 11 in (280 mm) wide, measured

from riser to riser. Open risers are not permitted. 4.9.3 Nosings. The undersides of nosings shall not be abrupt. The radius of curvature at the leading edge of the tread shall be no greater than 1/2 in (13 mm). Risers shall be sloped or the underside of the nosing shall have an angle not less than 60 degrees from the horizontal. Nosings shall project no more than 1-1/2 in (38 mm).

> with 4.26 and shall have the following features: (1) Handrails shall be continuous along both sides of stairs. The inside handrail on switchback or dogleg stairs shall always be continuous. (2) If handrails are not continuous, they shall extend at least 12 in (305 mm) beyond the top riser and at least 12 in (305 mm) plus the width of one tread beyond the bottom riser. At the

> top, the extension shall be parallel with the floor or ground surface. At the bottom, the handrail

4.9.4 Handrails. Stairways shall have handrails at both sides of all stairs. Handrails shall comply

shall continue to slope for a distance of the width of one tread from the bottom riser; the remainder of the extension shall be horizontal. Handrail extensions shall comply with 4.4. (3) The clear space between handrails and wall shall be 1-1/2 in (38 mm). (4) Gripping surfaces shall be uninterrupted by newel posts, other construction elements, or

(5) Top of handrail gripping surface shall be mounted between 34 in and 38 in (865 mm and

965 mm) above stair nosings. (6) Ends of handrails shall be either rounded or returned smoothly to floor, wall or post. (7) Handrails shall not rotate within their fittings.

S



BSC DWN BY: BSC CHKD. BY: N/A

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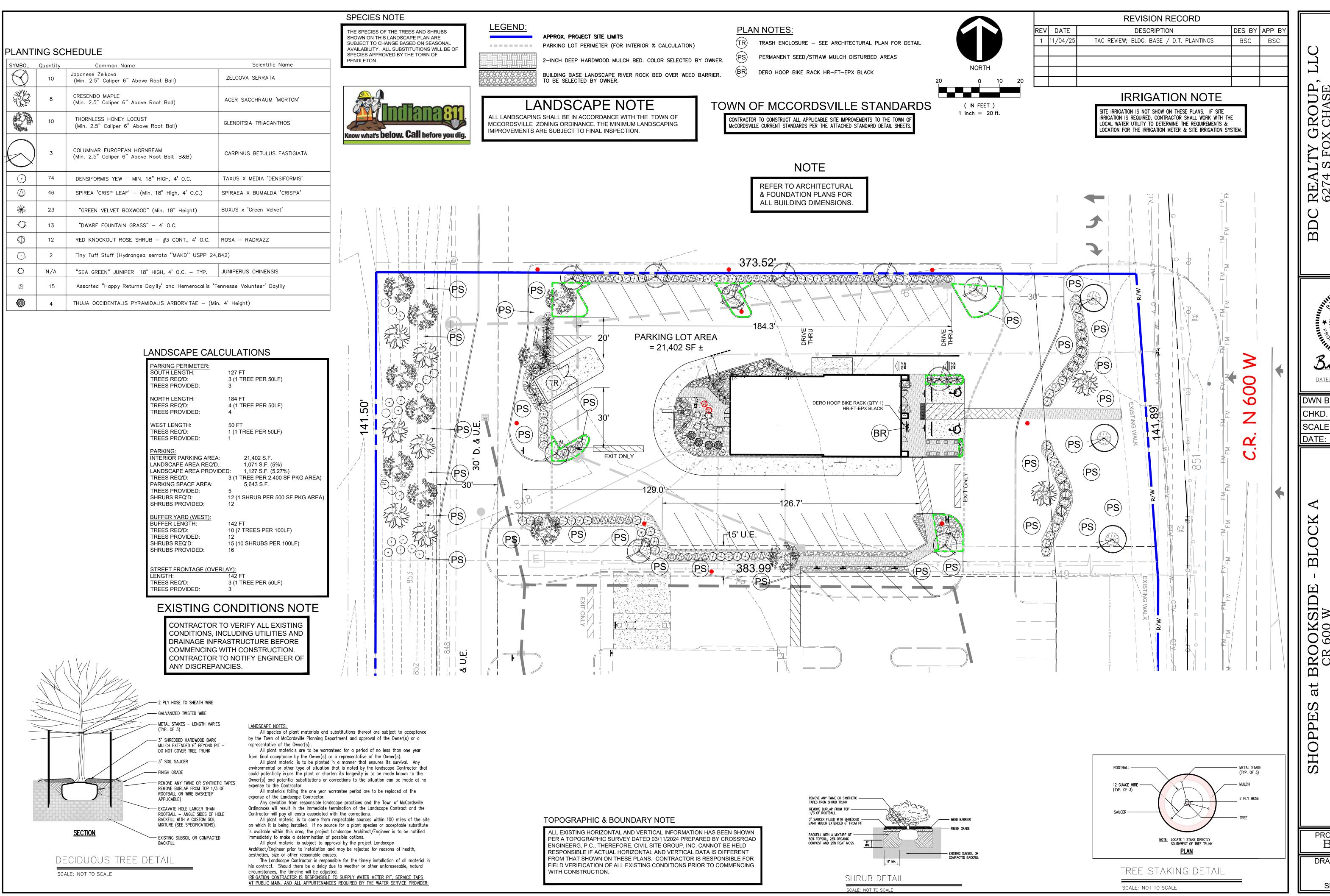
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DRAWING NUMBER C9.0 SHEET 12 OF 24

PROJECT NUMBER

BRG.008



PE10910647 STATE OF DATE: 10/02/2025 BSC DWN BY:

1"=20' 10/02/25

CHKD. BY: SCALE:

PROJECT NUMBER BRG.008

DRAWING NUMBER SHEET 13 OF 24

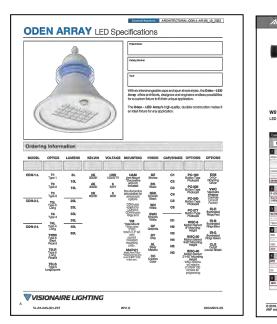
+0.0 + 0.0+0.0 + 0.0 + 0.0 + 0.0 + 0.0 + 0.0 + 0.0 + 0.0 + 0.0 + 0.1 + 0.1 + 0.1 + 0.1 + 0.1 + 0.1 + 0.1 + 0.0 + 0.0 + 0.0 + 0.1 + 0.00.0 + 0 3.1 + 4.0 + 5.2 + 4.3 + 2.2 + 1.2 + 0.6 + 0.3 + 0.1 + 0.0+0.0 + 0.0 + 0.1 + 0.1 + 0.2 + 0.3 + 0.4 + 0.5 + 0.8 + 0.9 + 1.2 + 1.3 + 0.2 + 0.5 + 0.4 + 0.5 + 0.8 + 0.9 + 1.2 + 1.3 + 0.4 + 0.5 + 0.8 + 0.9 + 1.2 + 1.3 + 0.4 + 0.5 + 0.8 + 0.9 + 0.8+0.0 + 0.0 + 0.1 + 0.1 + 0.3 + 0.4 + 0.6 + 0.7 + 0.8 + 0.9 + 1.0 + 1.1 + 1.3 + 1.5 + 2.0 + 2.6 + 3.4 + 4.8 + 7.8 + 2.5 + 3.2 + 2.3 + 1.6 + 1.2 + 1.1 + 1.2 + 1.3 + 1.5+0.0 + 0.0 + 0.1 + 0.1 + 0.3 + 0.5 + 0.8 + 1.1 + 1.6 + 1.7 + 1.8 + 1.7 + 1.3 + 1.2 + 0.0 + 0.9 + 0.8+0.0 + 0.0 + 0.1 + 0.2 + 0.3 + 0.6 + 0.8 + 1.1 + 1.5 + 1.5 + 0.9 + 0.5 + 0.3+0.0 + 0.0 + 0.1 + 0.2 + 0.3 + 0.5 + 0.7 + 0.9 + 1.3 + 1.6 + 1.6 + 1.3 + 1.6 + 1.6 + 1.3 + 1.6 + 1.5 + 0.2 + 0.2 + 0.2 + 0.2 + 0.2 + 0.2 + 0.2 + 0.2 + 0.2 + 0.2 + 0.2 + 0.2 + 0.2 + 0.2 + 0.2 + 0.2 + 0.2 + 0.2 + 0.3 + 0.4+0.0 + 0.0 + 0.1 + 0.1 + 0.2 + 0.3 + 0.5 + 0.7 + 0.8 + 1.0 + 1.1

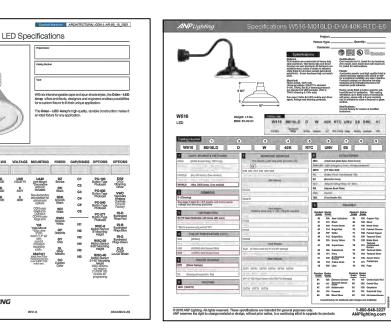
LIGHTING PHOTOMETRIC

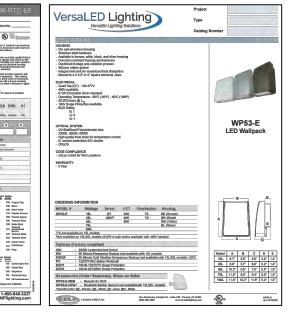
SCALE :  $\frac{1}{32}$ " = 1FT

Statistics						
Description	Symbol	Avg	Max	Min	Max/Min	Avg/Min
Paved Areas_ Grade	Ж	2.3 fc	12.2 fc	0.1 fc	122.0:1	23.0:1
Site_ Grade	+	1.0 fc	12.2 fc	0.0 fc	N/A	N/A

Schedule	Schedule							
Symbol	Label	QTY	Manufacturer	Catalog Number	Description	Lumens per Lamp	LLF	Wattage
$\otimes$	EX-B1	6	Lithonia Lighting	KBA8 LED 12C 350 40K ASY MVOLT	KBA8 WITH 3 LIGHT BOARDS (12 LEDs), 350mA DRIVER, 4000K COLOR TEMP, AND ASYMMETRIC OPTIC	1210	0.95	16
⊗	EX-S2	9	EXISTING	EXISTING	EXISTING	9721	0.95	65.52
$\otimes$	EX-S3	5	Lumenpulse	ALG-120/277-CSL-L170- 40K-CRI 80-3	Allegra	14729	0.95	146
	EX-W1	6	Lithonia Lighting	WPX0 LED ALO-1 40K MVOLT	WPX0 LED, 850 Lumen setting, 4000K Setting, 120-277V	829	0.95	6.0096
0	S1	1	Visionaire Lighting LLC	ODN1-T3-10L-3K-UNV- CLS MOUNTED AT 20'0"	ODEN 1 ARRAY 10000 LUMENS T3 CUTOFF LOUVER SHIELD 65W	7601	0.95	65.52
0	S2	2	Visionaire Lighting LLC	ODN1-T5LS-10L-3K-UNV- -CLS MOUNTED AT 20'0"	ODEN 1 ARRAY 10000 LUMENS T5LS CUTOFF LOUVER SHIELD 65W	9721	0.95	65.52
	W1	12	EELP, Inc.	WP53-E-40L-QT-40K-T3	Formed black metal housing - MOUNTED AT 10'-0" AFG	4614	0.95	40.9964
0	W2	2	America Nail Plate	W516M016LDNW40K	W516:16" WAREHOUSE SHADE, 16W CREE LED Module - Dome Lens, 4000K CCT - MOUNTED AT 16'-0" AFG	1852	0.95	17.45

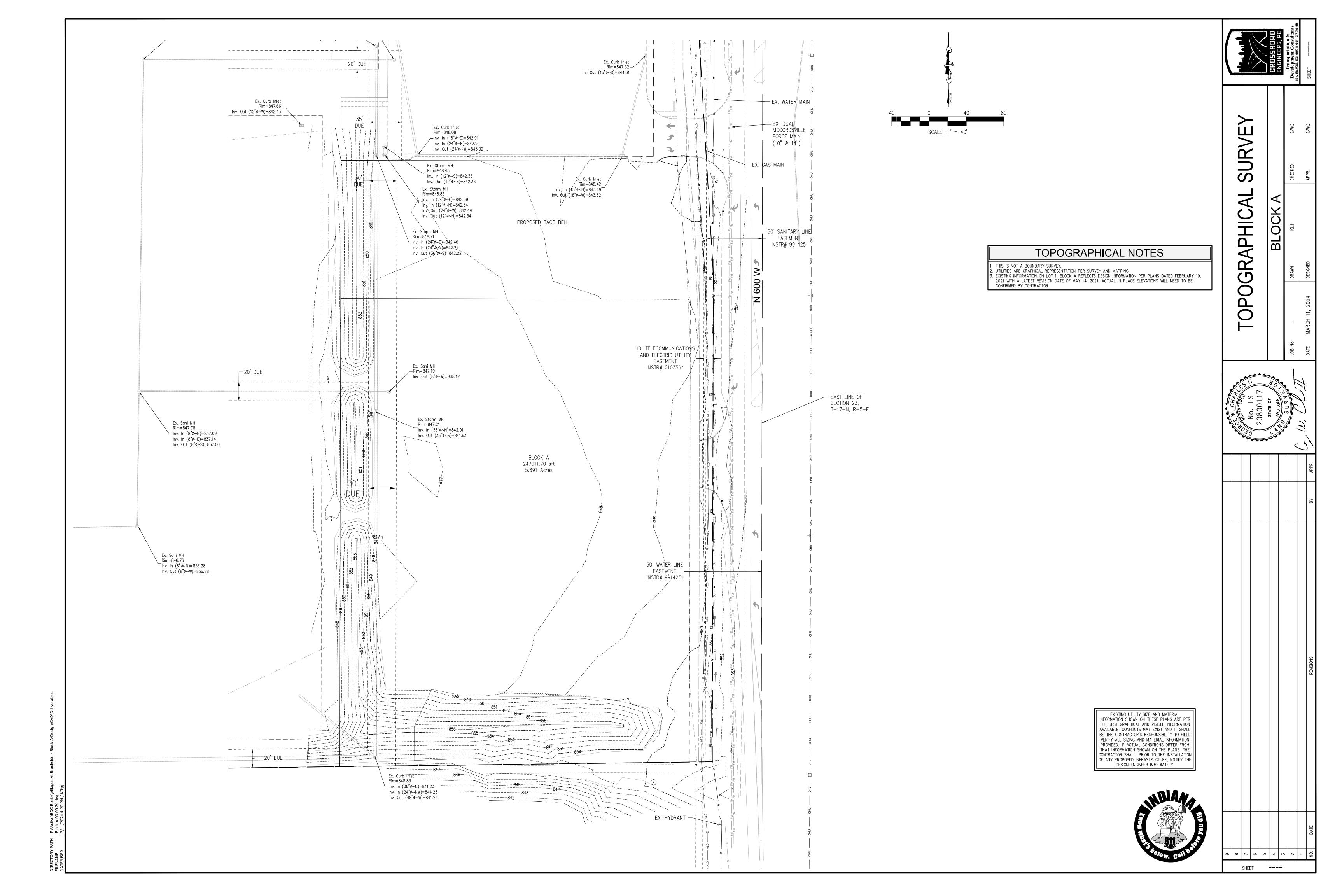






**GENERAL NOTES** GENERAL PLAN NOTES: MH: AS NOTED POINTS CALCULATED AT: GRADE LIGHT LOSS FACTOR: AS NOTED LIGHT SOURCE 8719 CASTLE PARK DRIVE INDIANAPOLIS, IN 46256 WWW.LIGHTSOURCEINDIANA.COM **VILLAGES AT BROOKSIDE - PHASE** II- SOUTH BUILDING **EXTERIOR LIGHTING PHOTOMETRIC** ARH As Noted 10/13/2025 LS-25-2281 SITE E101

Disclaimer
This lighting submittal is strictly based on the information
provided to LIGHTsource, and is provided without warranty as to accuracy,
completeness, reliability or otherwise. If the information (including but not
limited to floor-plans, reflected ceiling plans, electrical plans and specification
provided to Acuity Brands is incomplete or not current (i.e., newer versions
exist), the accuracy of proposed design may be adversely affected. Once this
lighting submittal is received by the customer or end-user (as applicable), it is
the obligation of the customer or end-user (as applicable) to consult with a
professional engineering advisor to determine whether the proposed design
meets the applicable project requirements for lighting system performance,
code compliance, safety, suitability and effectiveness for use in a particular
application. In no event will LIGHTsource be responsible for any loss resulting
from any use of any information contained in this lighting submittal.



# McCORDSVILLE, INDIANA TOWN STANDARDS

#### **DIRECTIONS FOR USE**

- 1.) The entire set of full size drawings shall be attached to the construction drawings and shall be considered part thereto. A partial set may be used for small projects when whole sections are not applicable. Approval of use of a partial set will be made by the Town Engineer at the time of approval of the construction drawings.
- 2.) Details prepared by outside sources shall not be included in the construction drawings when the said drawings cover work which is covered by McCordsville Standards.
- 3.) Individual McCordsville Standards that do not apply may be crossed out by the design engineer through placement of a single large X over the detail. Minor reference notations may be placed adjacent to individual standard titles for coordination. However, the standards themselves shall not be modified in any way.
- 4.) Details prepared by outside sources covering work which is not covered by the McCordsville Standards are the sole responsibility of the design engineer and shall be placed on sheets other than the McCordsville Standards.

#### **GENERAL NOTES**

- 1.) Contractor shall verify the exact location of all existing utilities at least 48 hours prior to any construction or excavation. All utilities shall be adequately supported to minimize damage. The contractor shall be responsible for repairing damaged utilities to the satisfaction of the Town of McCordsville and the owner of the utility.
- 2.) All benchmarks and elevations shall be from NAD 1983 (Conus) Datum. All coordinates shall conform with the Hancock County GIS standard.
- 3.) Wherever proprietary equipment is specified, all proposals for substitution shall be submitted in writing to the Town Engineer and shall be subject to the findings of the Town Engineer and may be appealed to the Public Works Committee.
- 4.) Whenever trench opening encroaches within 5 feet of an existing or proposed street or sidewalk, "B"-Borrow compacted in accordance with the most recent INDOT standard specifications shall be required. Approved backfill may be used under proposed sidewalks provided sidewalks are constructed six months after backfilling of the trench.
- 5.) Installation of or provisions for installation of all underground utilities (including service laterals) to be placed under pavement areas shall be established prior to the construction of pavements including lime stabilization.



REVISION LOG							
SHEET NO.	SHEET DESCRIPTION	ISSUED	REVISED	REVISED	REVISED	REVISED	
SHEET 1	DIRECTIONS FOR USE, GENERAL NOTES & REVISION LOG	06/14/05	05/02/2023				
SHEET 2	RIGHT-OF-WAY SECTIONS & PAVEMENT SPECIFICATIONS	06/14/05	05/02/2023	05/09/2025			
SHEET 3	RIGHT-OF-WAY DETAILS	06/14/05	05/02/2023				
SHEET 4	UTILITY LOCATION GUIDELINES	06/14/05	05/02/2023				
SHEET 5	DRIVE WAYS, SIDEWALKS, AND HANDICAP RAMPS	06/14/05	05/02/2023				
SHEET 6	STORM SEWER STRUCTURE DETAILS	06/14/05	05/02/2023				
SHEET 7	STORM SEWER BEDDING DETAILS AND GENERAL NOTES	06/14/05	05/02/2023				
SHEET 8	SANITARY SEWER SPECIFICATIONS	06/14/05					
SHEET 9	SANITARY SEWER DETAILS	06/14/05					
SHEET 10	SANITARY SEWER LIFT STATION STANDARDS & GUIDELINES	06/14/05	05/02/2023				

## TOWN OF McCORDSVILLE

THOMAS STRAYER

TOWN COUNCIL PRESIDENT

GRANT ADAMS

PUBLIC WORKS CHAIRMAN

TONYA GALBRAITH

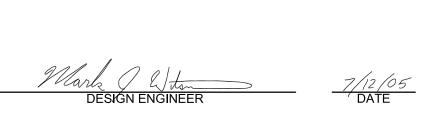
TOWN MANAGER

PUBLIC WORKS COMMISSIONER

	REVISIONS		
REV. NO.	DESCRIPTION	DATE	
1	Various changes in red	4/18/2023	
			'



RECOMMEND FOR APPROVAL



TOWN OF McCORDSVILLE

#### LIME STABILIZATION

DESCRIPTION: This work shall consist of upgrading of mostly fine grained soils by uniformly mixing small amounts of lime (3 to 6%) by weight to provide a working platform for the road subbase.

4.5%

MATERIALS: Material shall meet the requirements of the Section 913 of the INDOT Standard Specification

Comput (3% by weight) may be used as an alternative

Cement (3% by weight) may be used as an alternative.

- a) High calcium or dolomite Hydrated Lime (Ca(oH)2 +Mg(oH)2) shall have a minimum of 90% total available calcium hydroxide content and the hydrates must contain no more than 5 % carbon dioxide content if sampled at the lime plant, or no more than 7 % if sampled at the job site.
- b) High calcium hydrated lime shall have a minimum available calcium hydroxide Ca(oH)2 content of 90%. The method used for determination of available lime shall conform to AASHTO T219-72 or ASTM C25.
- c) Maximum Mechanical Moisture content shall be 4%.
- d)Gradation: All hydrated lime shall conform to the following gradation requirement. At least 85% passing a #200 sieve (0.075 mm). Determination of particle size shall conform to the provision for wet sieving on ASTM C110.
- e) Quicklime or Kiln dust shall not be used.
- e)Other lime products such as quicklime high calcium (CaO) or Dolomite (CaO- MgO) may be substituted with written approval by the Town Engineer. By product lime (kiln dust) shall not be used.

WATER: Water used for lime modification shall be in accordance with all applicable requirements of 913 and 913.01 of the INDOT Specifications, except that the minimum acceptable pH is 6.5.

#### STORAGE AND HANDLING

- a) Hydrated lime shall be stored and handled in closed weatherproof containers until immediately before distribution on the subgrade. Hydrated lime in bags shall be stored in weather protected conditions with adequate protection from ground dampness, and the facility shall be approved by the Town Engineer prior to commencement of any lime work.
- b) Each shipment shall be accompanied by a bill of loading and by a certificate of compliance stating conformance to the applicable specification requirements. The certificate of compliance shall be submitted to the Town Engineer prior to the proof roll on the subgrade.
- c) The Contractor shall take appropriate preventive and protective (safety) measure that shall be exercised by those working with this material. All safety measures shall comply with applicable OSHA requirements.

#### MIXTURE COMPOSITION:

- a) Mix Design: Lime will be proportioned within a range of 3 to 6 percent of soil (oven dry basis). The required proportion of lime will be recommended by the Contractor and approved by the Town Engineer prior to construction using samples of soil and lime. The Town Engineer reserves the right to make such adjustments of lime proportioning as are considered necessary during the progress of the work within the range specified.
- b) Source or type of lime shall not be changed during the progress of the work without permission of the Town Engineer. However, the Town Engineer may choose to use different types of lime on different portions of the project, but shall not be mixed.

#### **CONSTRUCTION REQUIREMENTS:**

- a)Temperature and Weather Limitations: No lime modification shall be performed at a soil temperature less than 45 degrees Fahrenheit (7 degrees C) and the air temperature rising, of subgrade soil when it is measured 4" (100 mm) below the surface. Lime shall not be mixed with frozen soils or with soil containing frost.
- b) Preparation of Existing Roadway: All deleterious material, such as stumps, roots, turf, etc. and aggregate larger than 3" (75 mm) shall be removed. Any soft organic soils shall be removed as directed by the Town Engineer.
- c) Spreading of Lime: The roadbed shall be scarified or disked prior to distribution of the lime. The machine shall be of such design that a visible indication is given at all times that the machine is cutting to the required depth; The lime shall than be distributed uniformly over the surface by means of cyclone, screw-type, or pressure manifold type distributor. The Town Engineer may reject any procedure which does not provide even distribution of lime.

Lime shall not be applied when wind conditions are such that blowing lime becomes objectionable to adjacent property owners or creates a hazard to traffic on adjacent roadways.

The spreading of lime shall be limited to the amount which can be incorporated after mixing. In no case shall compaction be started later than three (3) days after mixing into the soil. In the event that rain intervenes causing cessation of work and exposure of the lime to washing or blowing, the Town Engineer may require additional lime to be spread.

- d)Mixing: The lime, soil and water (if necessary) shall be thoroughly blended by rotary speed mixers or a disc harrow. The mixing shall continue until a homogeneous layer of the required thicknesses has been obtained and clods are broken down so that 100 %, exclusive of rock particle, will pass a one-inch (25 mm) sieve and at least 60% will pass a 4 sieve (4.75 mm). The loose thickness of a single lime modified layer shall not exceed eight (8) inches (200 mm) if a disc harrow is used and fourteen (14) inches (355 mm) if a rotary speed mixer Is used.
- e)Compaction: Compaction of the mixture shall begin as soon as is practicable mixing unless approved by the Town Engineer. If compaction is to be delayed, the surface of the lime modified soil shall be crown-graded and sealed by either blade dragging or light rolling immediately after mixing.

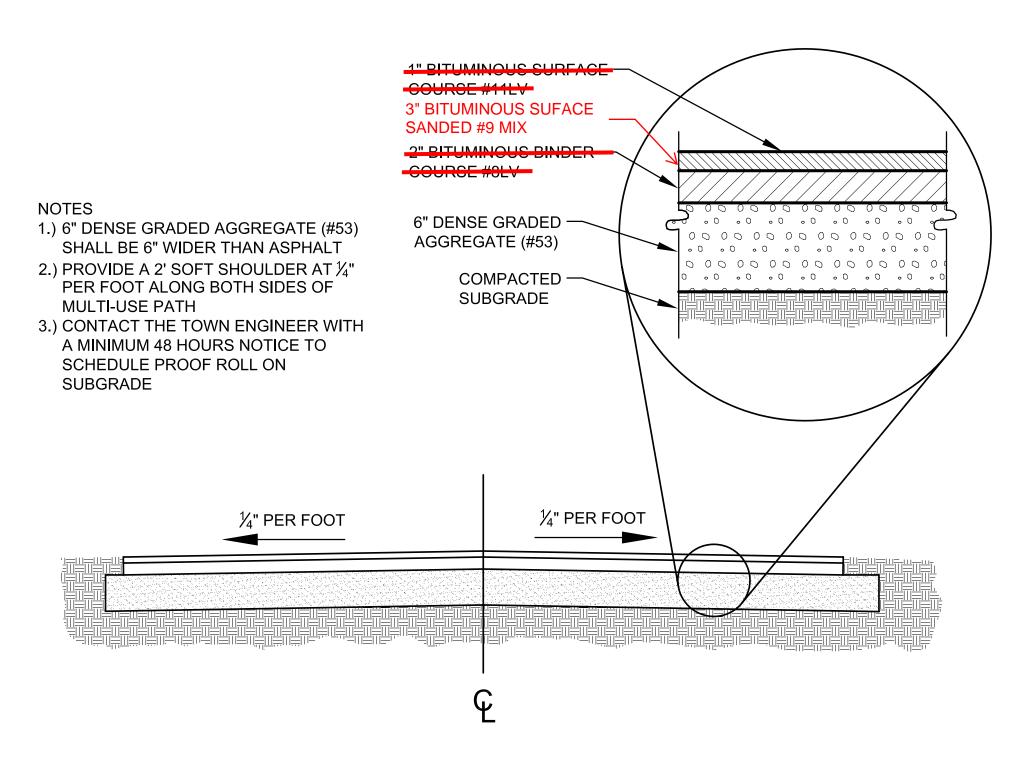
Compaction shall be continued until the Contractor has shown that the lime modified layer has a density not less than 100 percent within the special subgrade treatment zone and/or 95 percent below special subgrade treatment zone, of the maximum dry density.

The standard dry density of the lime treated soil shall be obtained by AASHTO 99. The field in-place dry density will be obtained by the Contractor in accordance with AASHTO T 191.

Aeration by means of further mixing, or the addition of water and further mixing, may be required by the Town Engineer to achieve the required compaction.

f) Finishing: When compaction of the lime modified soil is nearing completion, the surface shall be shaped to the required line, grades and cross section, and compaction continued until uniform and adequate compaction if obtained.

The Town Engineer reserves the right to determine the actual thickness of the completed and cured layer by coring or other means at the owner's expense, and any deficient areas shall be acceptably corrected.



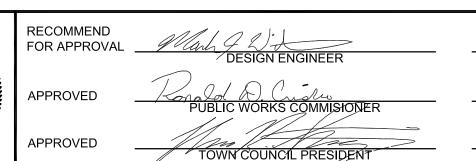
# MULTI-USE PATH DETAIL SCALE: NONE

REVISIONS

DESCRIPTION
DATE

Various changes in red
4/18/2023





# TOWN OF McCORDSVILLE

SHEET

2

OF

**10** 

TOWN STANDARDS
RIGHT-OF-WAY SECTIONS
& PAVEMENT SPECIFICATIONS

6" COMPACTED SUBGRADE (SEE NOTE 1)

SEE UNDERDRAIN DETAIL (SHEET 3)

NOTES:

- 1. HMA SHALL BE PRODUCED FROM AN INDOT CERTIFIED HMA PLANT, IN ACCORDANCE WITH INDIANA TEST METHOD (ITM) 583.
- 2. THE CONTRACTOR SHALL PROVIDE A COPY OF THE CERTIFICATION TO THE TOWN ENGINEER AT OR BEFORE THE INSTALLATION OF THE HMA.
- 3. PG BINDER MATERIAL (LIQUID) SHALL BE PG 64-22
  FOR TYPE A AND TYPE B MIXES.
- 4. RECYCLED MATERIALS, UP TO 25%, MAY BE USED BASE. IF OVER 15% RECYCLED MATERIAL IS USED, PG BINDER 58-28 SHALL BE USED RATHER THAN PG 64-22

# 

LOCAL ROAD

3) 4" COMPACTED AGGREGATE BASE #53 4" COMPACTED AGGREGATE BASE #2

#### COLLECTOR LOCAL ARTERIAL ROAD

- d = 15" 1.5" 1 HMA, TYPE A, 9.5 MM SURFACE
- 2.5" HMA, TYPE A, 19.0 MM INTERMEDIATE
- ③ 3" HMA, TYPE A, 25.0 MM BASE
- 4" COMPACTED AGGREGATE BASE #53 4" COMPACTED AGGREGATE BASE #2

Arterial Road (CR 600 West / Mt Comfort Road)

ENTRANCE ASPHALT SECTION (WITHIN C.R. N600W R.O.W.) IS AS FOLLOWS:

- 1.5" HMA SURFACE 9.5mm

- 4" HMA BASE 19.0mm

- 2.5" HMA INTERMEDIATE 12.55mm

## COLLECTOR ROAD

- 6" HMA BASE 19.0mm
   4" COMPACTED AGGREGATE #53
   4" COMPACTED AGGREGATE #2
   4" COMPACTED SUBGRADE (SEE McCORDSVILLE SPECIFICATIONS)
- 2 4 HMA, TYPE B, 19.0 MM INTERMEDIATE
- ③ 6" HMA, TYPE B, 25.0 MM BASE
- (4) 4" COMPACTED AGGREGATE BASE #53 4" COMPACTED AGGREGATE BASE #2

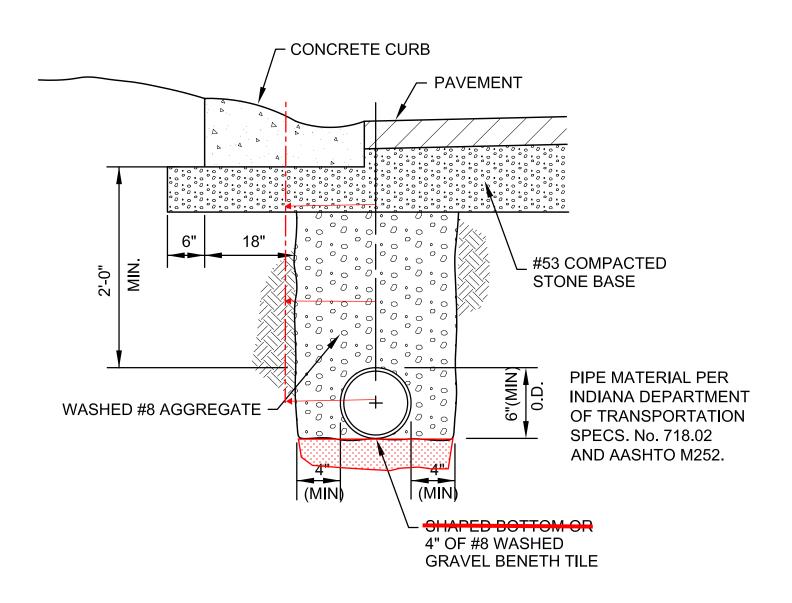
## PAVEMENT CONSTRUCTION

SCALE: NONE

## PAVEMENT CONSTRUCTION

- 1.) Subgrade shall be lime stabilized per the lime stabilization specification on this sheet.
- 2.) Adequacy of existing subgrades shall be determined solely by the town based on a contractor performed proof roll with a fully loaded tri-axle dump truck. A proof roll shall be performed on all street subgrade prior to placing stone, under drains and installing curb. A second proof roll shall be performed on the stone prior to placing the asphalt base. The adequacy of the stone and subgrade shall be determined solely by the town.
- 3.) Place tack coat in accordance with the most recent INDOT standard specifications for asphalt pavement sections.
- 4.) Local Arterial Road is defined as a low capacity and low speed roads within subdivisions whose function is to become a collector street for local subdivision traffic and move traffic from within the community to other locations in the community and to the existing county roads. Whether a street is defined as a Local Arterial Road is at the sole discretion of the Public Works Commissioner.
- 5.) Installation of or provisions for installation of all underground utilities (including service lines and laterals) shall be placed prior to the construction of pavement including lime stabilization.
- 6.) Paving of base and/or intermediate shall occur when temperatures are 32 degrees and rising. Surface paving of 1.5" or greater shall be when temperatures are 40 degrees and rising. Surface paving of 1" or less shall be when temperatures are 45 degrees and rising.

7/12/05 DATE



## UNDERDRAIN DETAIL SCALE: NONE

#### STREET SIGN STANDARDS

All traffic and road name signs in and as a result of a major subdivision or a minor subdivision with newly constructed streets, shall be supplied and installed by the developer. The placement of the signs shall be as shown on the traffic sign plan that is to be submitted with the construction drawings. The traffic sign plan shall show the type of sign, size of sign, location of sign with dimensions and the streets to scale. A five (5) year maintenance bond shall be posted on the signs. The installer or developer shall notify the Town Engineer in writing when the signs are installed, so they can be inspected. Also include the date and time of installation of each sign. The plat shall not be recorded until the signs have been accepted.

#### TRAFFIC SIGNS

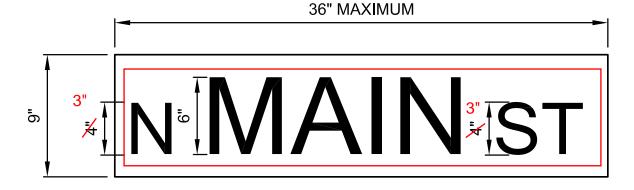
- 1.) Traffic signs shall be designed and installed to conform with the applicable requirements of the Indiana Manual of Uniform Traffic Control Devices, latest edition.
- 2.) No spliced sheeting unless acceptable by the Indiana Department of Transportation standard specifications, latest edition.
- 3.) Reflective sheeting for traffic signs shall be encapsulated lens (high intensity).
- 4.) Posts used for traffic signs shall be 3 lb. galvanized channel posts. 2 3/8" galvanized round posts with a 8" equilateral triangle 5.) Traffic sign height shall comply with the Indiana Manual of Uniform Traffic Control Devices, latest
- 6.) Posts shall be installed with no less than three (3) feet of post in the ground.
- 6.) Backing material will be made of sheet aluminum.
- 7.) Bolts for mounting shall be 5/16" galvanized, stainless steel or plated carriage bolts.
- 8.) The number of posts for mounting and the minimum thickness or gage of sheet shall be as shown for
- the appropriate sign width:

	NO. OF	THICKNESS (inches)
WIDTH(inches)	POSTS	ALUMINUM SHEET
Up to 24"	1	0.080
25" to 30"	1	0.080
31" to 60"	2	0.100
61" and over	2	0.125

#### STREET NAME SIGNS

- (Diamond grade reflectivity) with 1.) Intersections shall have one (1) road name sign for each street. White border
- 2.) All road name signs shall be made of an aluminum extruded blade.
- 4.) Reflective sheeting for road name signs shall be inclosed lens (high intensity), green in color. 5.) Letters and numerals for the road name signs shall be high intensity reflective specting, series B
- letters, and white in color.
- 3.) Posts used for road name signs shall be 2 lb. galvanized channel posts. 2 3/8" galvanized round posts. 6.) Minimum height to bottom of sign for road name signs shall be seven (7) feet.
- 7.) Posts shall be installed with no less than three (3) feet of post in the ground.
- 8.) Material for posts shall be galvanized steel.
- 7.) Bolts for mounting shall be 5/16" galvanized, stainless steel or plated carriage bolts.

#### Use upper and lower case

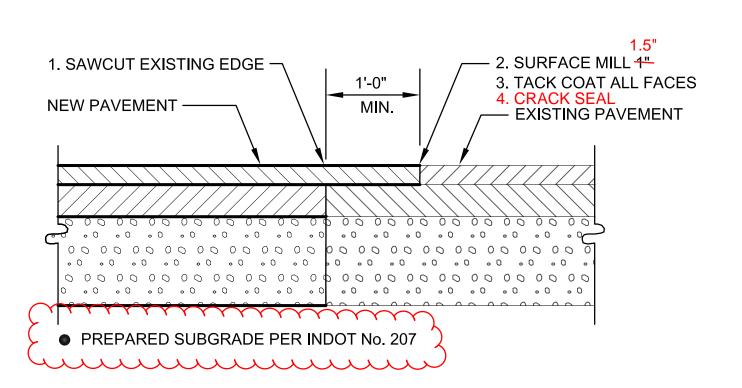


#### ROAD NAME SIGN DETAIL SCALE: NONE

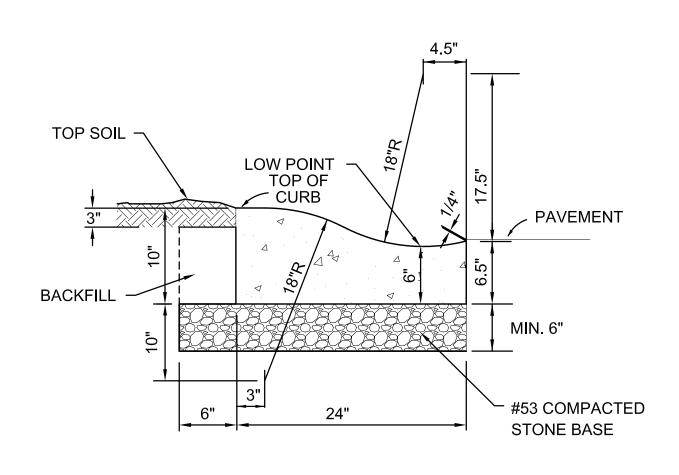
- 1. THE EXISTING PAVEMENT IS TO BE SAW CUT TO PROVIDE A CLEAN JOINT.
- 2. TRENCH SPOIL IS TO BE REMOVED FROM THE WORK SITE AND DISPOSED OF OUT OF THE RIGHT-OF-WAY AT A PREDESIGNATED APPROVED AREA.
- 3. FLOWABLE FILL IS TO BE POURED INTO THE TRENCH TO SERVE AS BACKFILL, TO THE DIMENSIONS AND SPECIFICATIONS LISTED IN THIS DETAIL.
- 4. THE ASPHALT PATCH IS TO CONSIST OF A MINIMUM OF 5 (FIVE) INCHES OF #8 HAC BITUMINOUS BINDER AND 1 (ONE) INCH OF #11 HAC BITUMINOUS SURFACE. IF THE EXISTING PAVEMENT IS THICKER THAN 6 (SIX) INCHES, ADDITIONAL BINDER IS TO BE USED TO MATCH THE EXISTING PAVEMENT THICKNESS. IN NO CASE IS LESS THAT 6 (SIX) INCHES OF ASPHALT TO BE USED.
- 5. THE EXISTING PAVEMENT IS TO BE TACK COATED PRIOR TO THE LAYING OF NEW ASPHALT. TACK COAT IS TO BE APPLIED AS SPECIFIED IN THE LATEST INDOT SPECIFICATIONS, SECTIONS 409 AND
- THE NEW SURFACE IS TO BE SLOPED AT THE SAME RATE AS THE EXISTING SURFACE.
- 7. A 2 (TWO) INCH WIDE BAND OF CRACK SEALANT IS TO BE APPLIED ALONG THE JOINT BETWEEN THE EXISTING AND NEW ASPHALT SURFACE. SEALANT IS TO BE APPLIED IN ACCORDANCE WITH INDOT SPECIFICATIONS, SECTION 305.
- 8. THE FLOWABLE FILL MIX IS TO CONTAIN, FOR EVERY CUBIC YARD OF BATCH MATERIAL, NO MORE THAN 50 LBS OF PORTLAND CEMENT. NO MORE THAN 500 LBS OF WATER.
- 9. THE COMPRESSIVE STRENGTH OF THE FLOWABLE FILL IS NOT TO EXCEED 100 PSI AT 28 DAYS.

# 1.5" HMA TYPE A, 9.5mm SURFACE 1 INCH #11 HAC 4.5" HMA TYPE A, 19 mm INTERMEDIATE BITUMINOUS SURFACE — · #8 HAC BITUMINOUS BINDER 5 INCHES MINIMUM OR MATCH EXISTING EXISTING BITUM. — **PAVEMENT** FLOWABLE FILL 2' MIN. Bedding per utility

ROAD CUT PATCH DETAIL

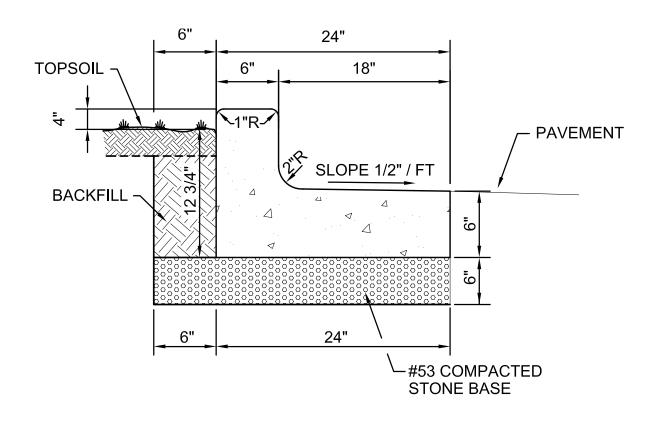






(TYPE I)

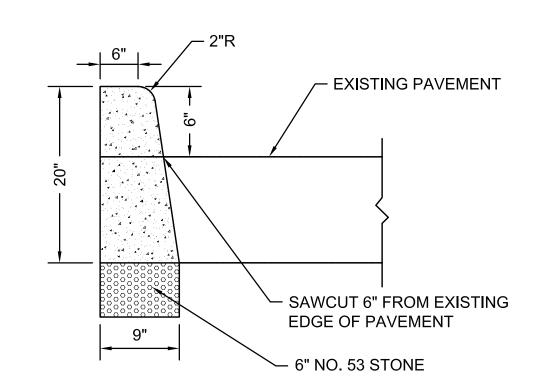
# 2' CONCRETE ROLL **CURB & GUTTER**



(TYPE II)

# 2' COMBINED CONCRETE **CURB AND GUTTER**

SCALE: NONE



CONCRETE CURB (BARRIER) SCALE: NONE

	REVISIONS		
REV. NO.	DESCRIPTION	DATE	
1	Various changes in red	4/18/2023	]
			3



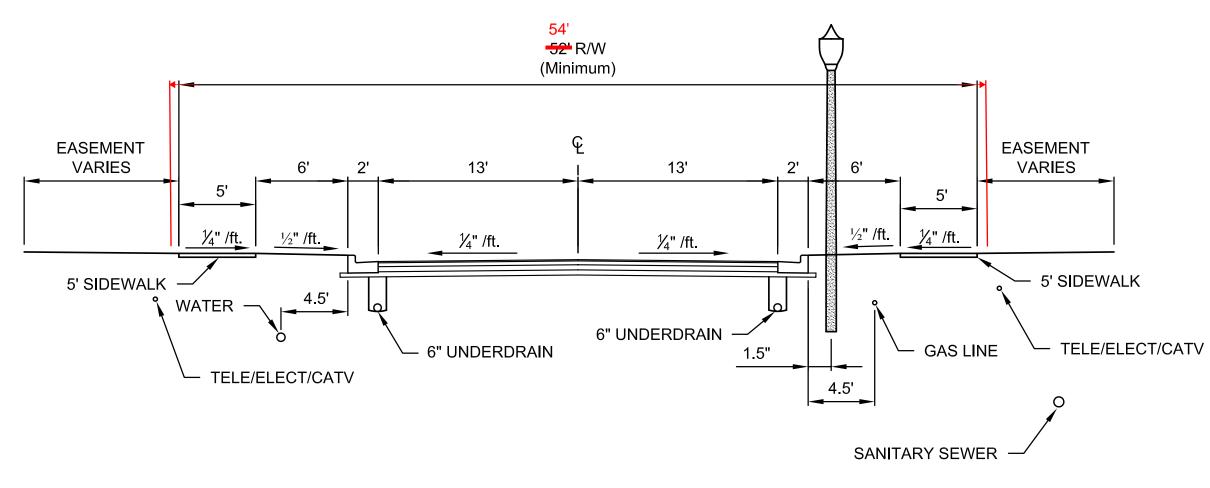
<b>.</b>	RECOMMEND FOR APPROVAL	Manh J DESIGN ENGINEER	<u>7/12/05</u> DATE
Munner	APPROVED	PUBLIC WORKS COMMISIONER	7/12/05 DATE
	APPROVED	TOWN COLINICAL PRESIDENT	7/12/05

**TOWN OF McCORDSVILLE** 

**TOWN STANDARDS RIGHT-OF-WAY DETAILS**  OF

**10** 

# Right-Of-Way ─ 6' Min. Parkway Back of Curb -5' Wide Sidewalk 20' Wide Utility Easement -LEGEND: ——— SAN ——— Sanitary Sewer —— STM —— Storm Sewer ——— G——— Gas —— ET —— Electrical/Telephone —— CTV —— Cable TV Right of way width, back to back of curb dimensions, and green strip width shown above are based upon local road section. TYPICAL LOT UTILITY LOCATION NOT TO SCALE **GENERAL NOTES:** 1.) The location of proposed utilities as indicated hereon are based upon the orderly development of the land. Strict adherence to the indicated location is required. Requests to change the location of the proposed utilities shall be submitted in writing to the Public Works Commissioner. Utilities not meeting these requirements shall be removed and replaced as directed by the Public Works Commissioner at the owner's expense.



# TYPICAL LOCAL ROAD UTILITY LOCATION NOT TO SCALE

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APPROVED	PUBLIC WORKS COMMISIONER	7/12/05 DATE	
APPROVED	TOWN COUNCIL PRESIDENT	7/12/05 DATE	

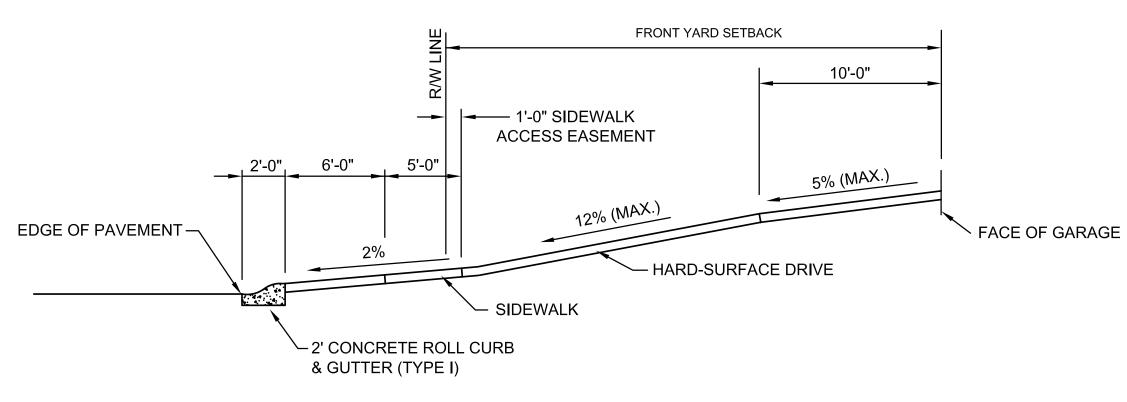
# TOWN OF McCORDSVILLE

TOWN STANDARDS
UTILITY LOCATION
GUIDELINES

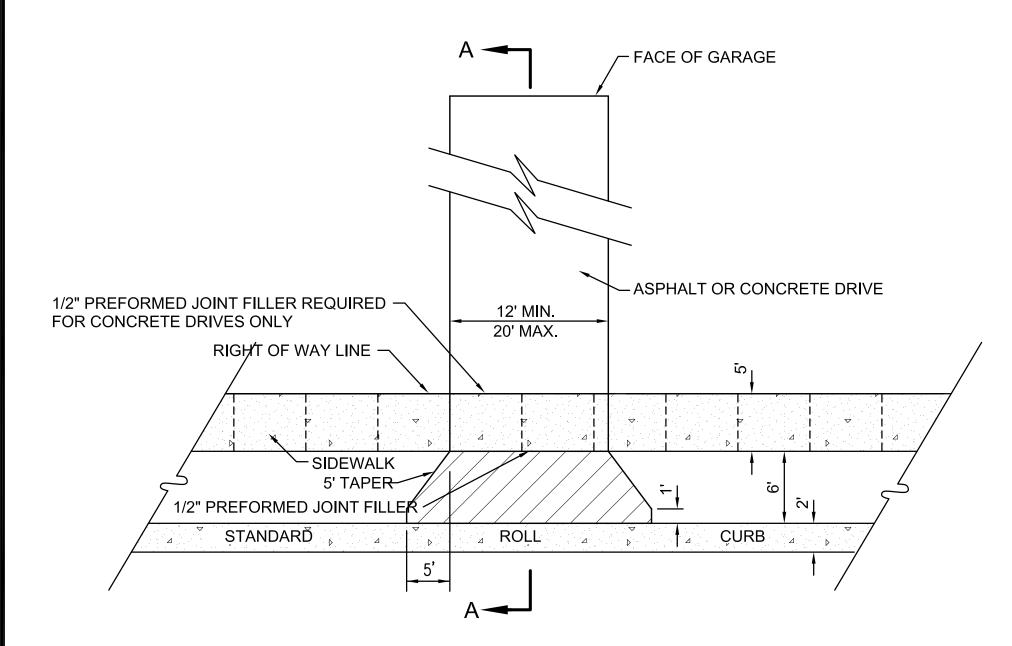
4 OF 10

#### RESIDENTIAL DRIVES

- 1.) THE MAXIMUM ALGEBRAIC DIFFERENCE IN GRADE FOR ANY 10 FOOT INTERVAL SHALL NOT EXCEED 8% FOR CREST VERTICAL CURVES. NOR 10% FOR SAG VERTICAL CURVES.
- 2.) ALL LOTS SHALL DRAIN TO ADJACENT STREETS EXCEPT WITH THE PRIOR APPROVAL OF THE PUBLIC WORKS COMMISSIONER.
- 3.) CONCRETE DRIVES REQUIRE CONTROL JOINTS EVERY 10 FEET EACH WAY.



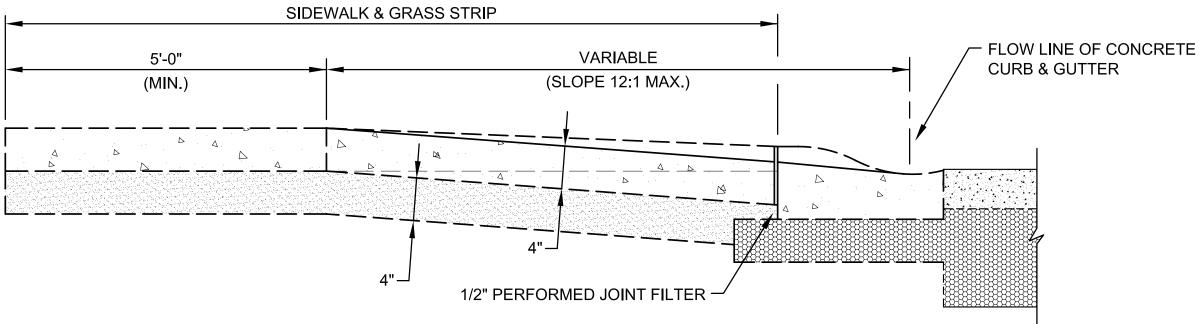
## **SECTION "A-A"**



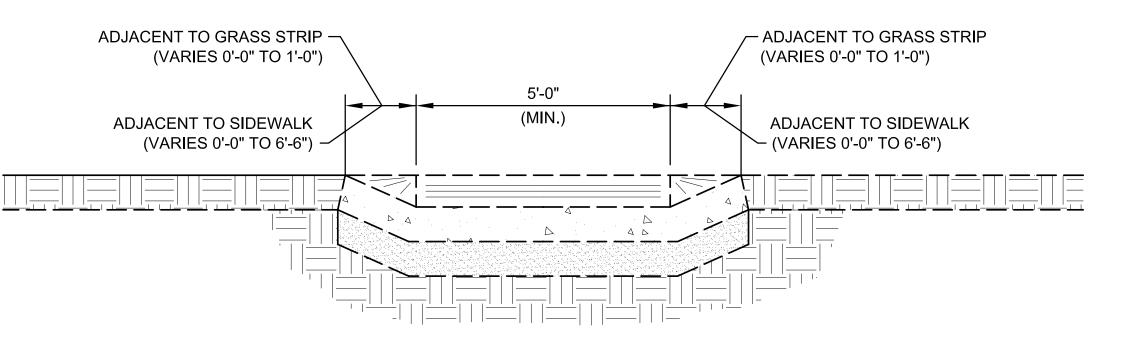
- 1. CROSS HATCHED AREAS SHALL BE EITHER 6" PLAIN CONCRETE OR 1" SURFACE ON 2" BITUMINOUS BASE ON 4" #53 COMPACTED AGGREGATE BASE, EXTENDING TO THE SIDEWALK OR R/W LINE WHICHEVER IS NEAREST TO THE ROADWAY.
- 2. SUBGRADE UNDER ALL SIDEWALKS AND DRIVES SHALL BE IN ACCORDANCE WITH SECTION 207,02 OF CURRENT INDOT STANDARD SPECIFICATIONS.
- 3. SIDEWALKS SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE APPROPRIATE STANDARD AND SHALL BE CONTINUOUS ACROSS THE DRIVEWAY. SIDEWALK SECTION ACROSS DRIVEWAY SHALL BE SAME THICKNESS AS DRIVEWAY WITH A 6-INCH MINIMUM.
- 4. Driveways are not to be located where a curb inlet is located.

## RESIDENTIAL DRIVEWAY DETAIL

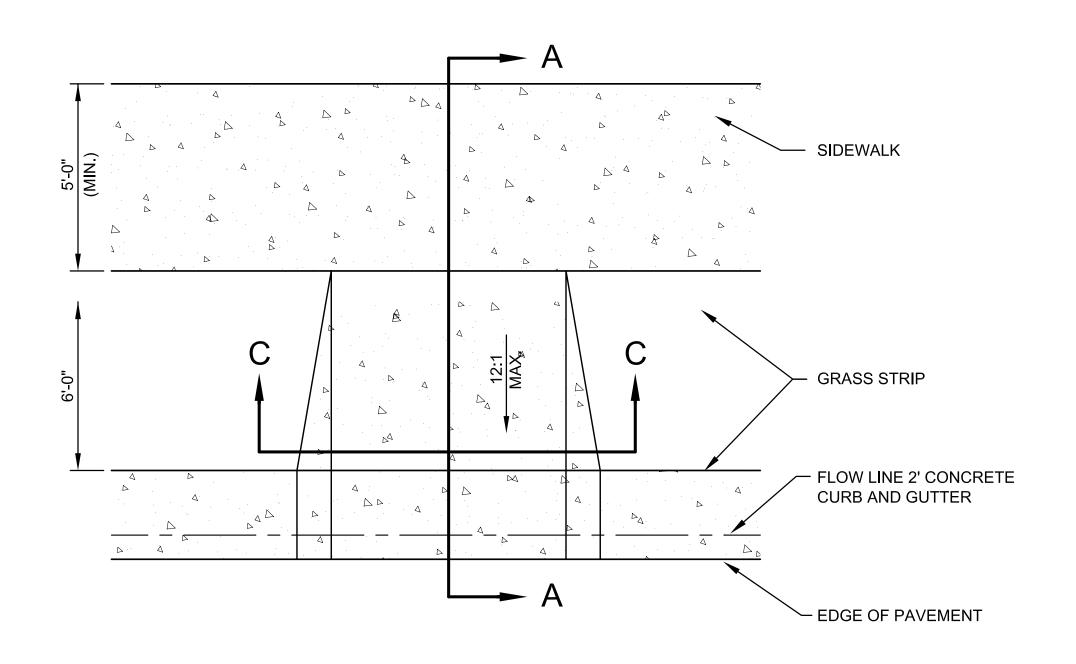
**SCALE: NONE** 



## **SECTION "A-A"**



## **SECTION "C-C"**



#### HANDICAP RAMP CONSTRUCTION SCALE: NONE

#### HANDICAP RAMP CONSTRUCTION

- 1.) All handicap ramps shall meet the requirements of the American Disabilities Act, the most recent INDOT standard specifications, and the Town of McCordsville's most recent standards. Curb modifications required for handicap ramps shall be provided at time of initial construction.
- 2.) Minimum width of curb ramp shall be 5 feet not including flares. Maximum slope of ramps and flares shall be 12:1.
- 3.) Handicap ramps are to be located as shown on the plans or as directed by the Public Works Commissioner.

Modify for 8 ramps per intersection.

4.) Ramps shall be provided at the centerline of radius at all corners of every street intersection where there is an existing or proposed sidewalk and curb. Ramps shall also be provided at walk locations at mid-block in vicinity of hospitals, medical centers, or athletic stadiums. The use of details contrary to those shown hereon shall require the prior written approval of the Public Works Commissioner.

- 5.) Surface texture of the ramp shall be ramp groves located 2" on center and 0.3" deep.
- 6.) Care shall be taken to assure a uniform grade on all ramps with no breaks in grade
- 7.) Drainage structures shall not be placed in line with the ramps except where existing drainage structures are being utilized in the new construction. Location of the ramps shall take precedence over location of drainage structures.
- 8.) The normal gutter line profile shall not be maintained through the area of the ramp. Drainage inlets should be located uphill from the curb ramps to prevent puddles at the path of travel.
- 9.) Expansion joint for the ramp shall be a maximum 1/2" wide. The top of the joint filler for all ramp types shall be flush with adjacent concrete.
- 10.) Crosswalk and stop line marking, if used, shall be so located as to stop traffic short of ramp crossing.
- 11.) ADA ramp is to be located outside of driveways.

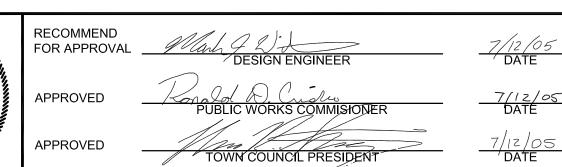
#### 10' MULTI-USE CONCRETE PATH CONSTRUCTION **SIDEWALK CONSTRUCTION**

#### fiber reinforced

- 1.) Sidewalks shall be constructed of plain concrete four (4) inches thick except where crossing driveways where the sidewalk shall be a minimum of six (6) inches thick.
- 2.) Sidewalks shall be constructed on 2" of crushed stone or sand.
- 3.) Control joints shall be placed every 5 feet on center.
- 4.) Expansion joints shall be placed every 40 feet on center.
- 5.) Broom finish across the direction of travel and include a 1" steel trowel finish along both sides of the sidewalk and along either side of all expansion and control joints.

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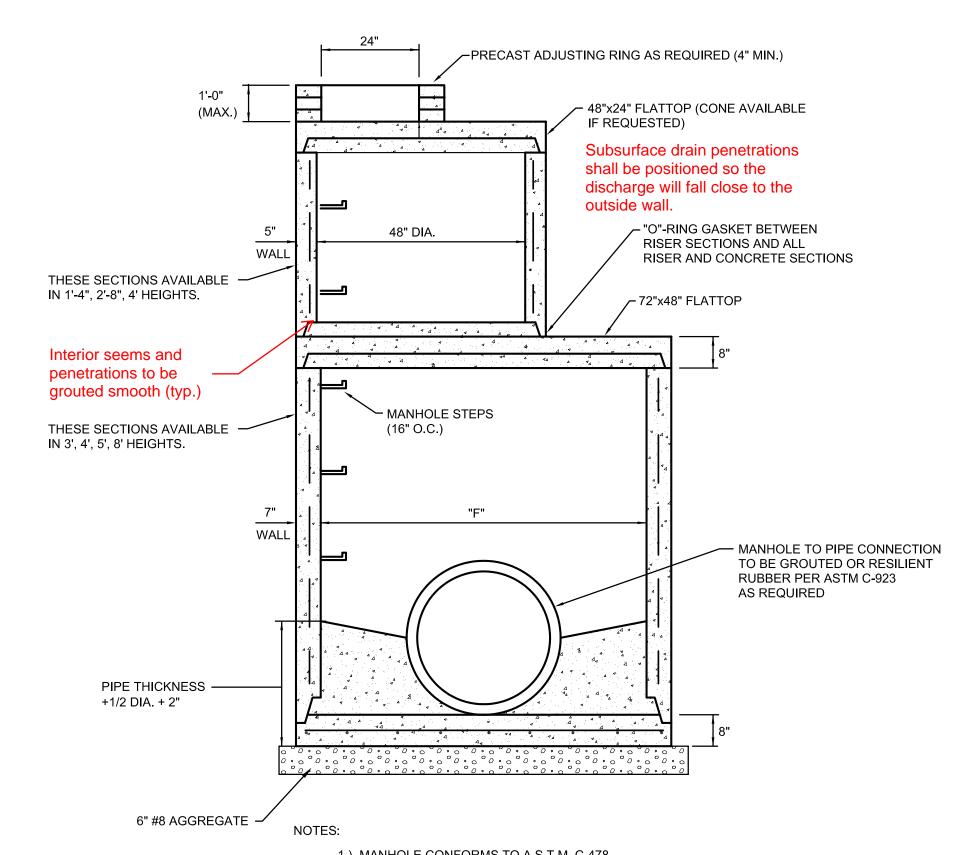
**TOWN OF McCORDSVILLE TOWN STANDARDS** 

**DRIVE WAY AND** HANDICAP RAMP DETAILS

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**OF** 

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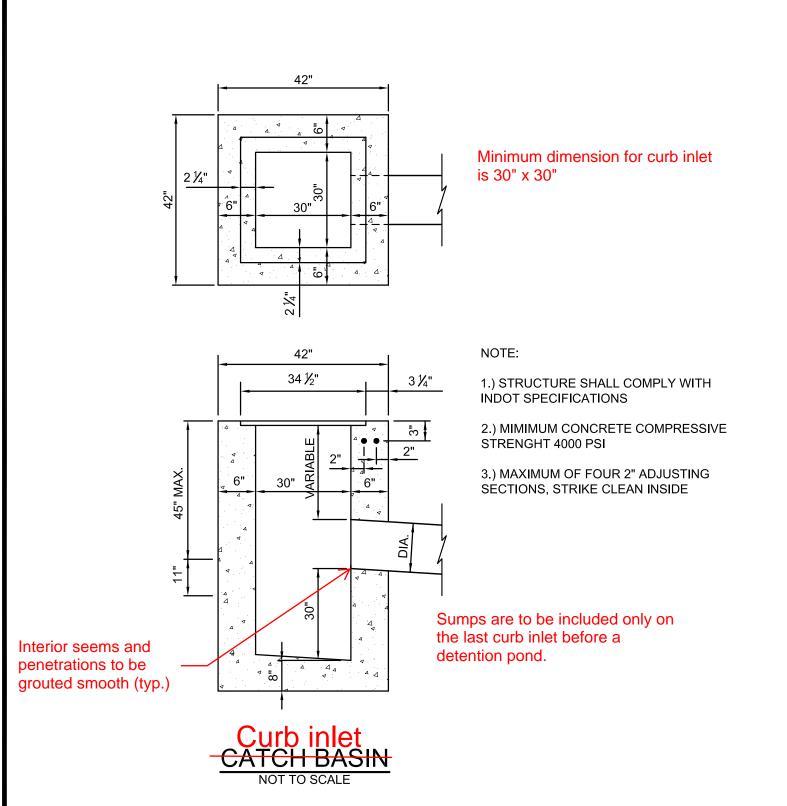


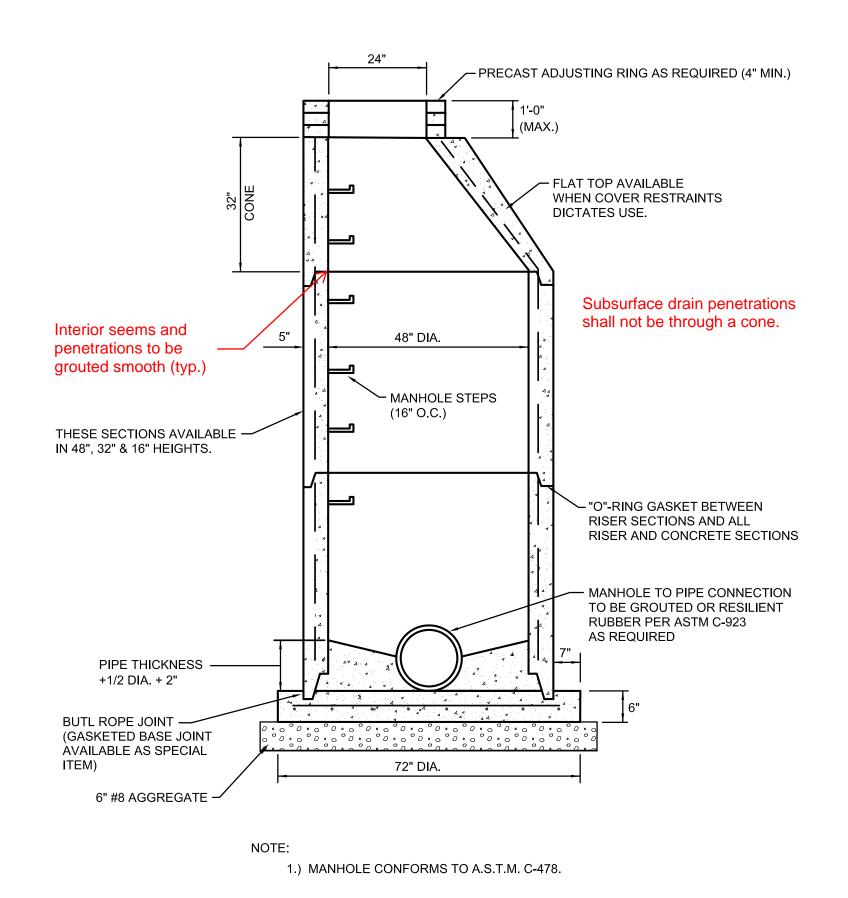
1.) MANHOLE CONFORMS TO A.S.T.M. C-478.

2.) TONGUE AND GROOVE JOINT WITH MASTIC, BUTYL ROPE OR GASKETED PER ASTM C-443 AS REQUIRED.

		MAXIMUM PIPE SIZE	
MANHOLE TYPE	MANHOLE DIAMETER "F"	PIPE ENTERING / PIPE EXITING AT 0°-45° BEND	PIPE ENTERING / PIPE EXITING AT 45°-90° BEND
J	60"	36"	33"
К	72"	48"	36"
L	96"	54"	48"
М	102"	72"	66"
N	108"	84"	72"

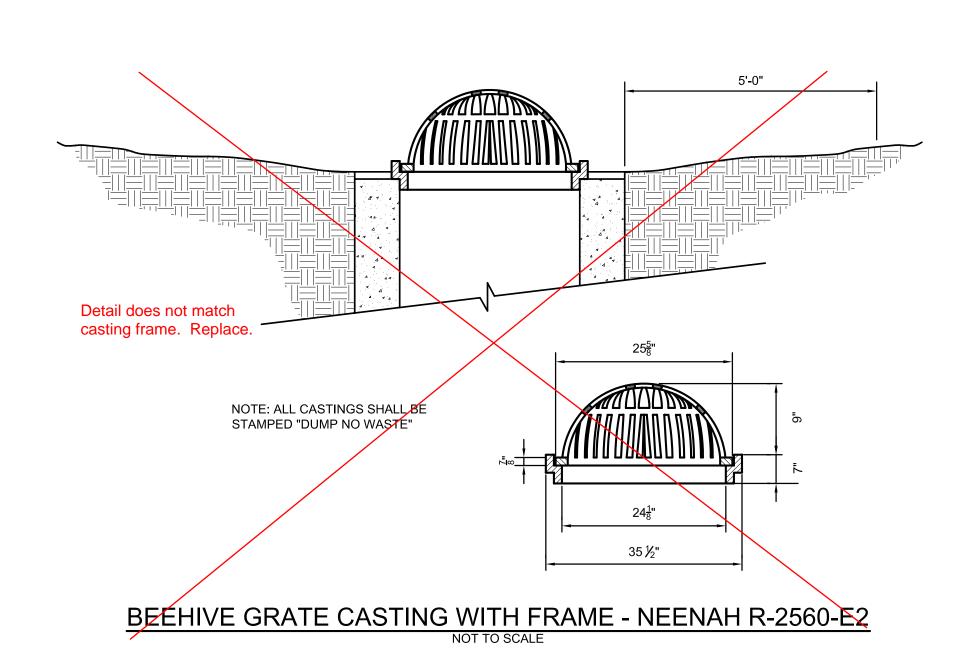
# STORM MANHOLES TYPE "J - K - L - M & N"





MAXIMUM PIPE SIZE		
PIPE ENTERING / PIPE EXITING AT 0°-45° BEND	PIPE ENTERING / PIPE EXITING AT 45°-90° BEND	
24"	21"	

## STORM MANHOLES TYPE "C"



#### MANHOLE NOTES:

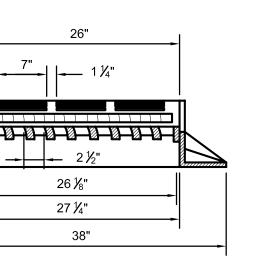
- 1.) Type "J, K, L, M & N" manholes as detailed hereon require a certain minimum depth. In cases where the depth of the storm sewer is not sufficient to meet the minimum depth as by the detail, "F" diameter manhole section may be used required by the detail, "F" diameter manhole section may be used throughout the depth of the manhole.
- 2.) Manholes shall conform to ASTM C-478. Joints shall conform to ASTM C-443. The use of cast-in-place concrete structures shall require the prior written approval of the Town Engineer. Regardless of the type of casting used, the casting shall be centered over the manhole steps.
- 3.) Manhole steps shall be made from a steel reinforcing rod encapsulated in a copolymer polypropylene resin. The manhole steps shall equal or exceed OSHA requirements manhole steps, PS1-PF as manufactured by M.A. Industries, Inc. Peachtree City, Georgia, or approved

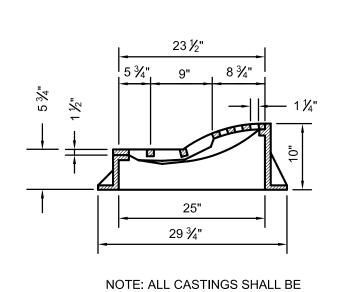
#### STORM SEWER TELEVISING:

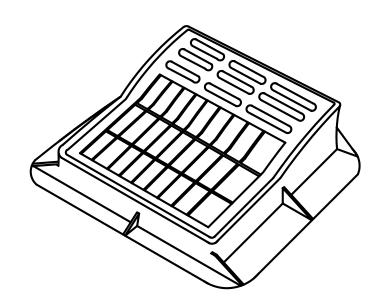
1.) All storm lines 12" in diameter and greater upon completion and 3 months prior to the expiration of the maintenance bond shall be televised. Smaller lines may be required to be televised by the Town Engineer at his discretion if it is necessary to ensure proper installation and/or operation. The storm sewer shall also be jetted clean if necessary in the judgment of the Town's representative after observing the televising.

#### CASTING NOTES:

- 1.) Castings which drain combined curb and gutter, Type II curbing shall be Neenah R-3286-8V or Neenah R-3287-10V or as approved by the Town Engineer. Manholes shall not be used to drain combined curb and gutter, Type II curbing. East Jordan ???? is also acceptable.
- 2.) Castings which drain roll curb and gutter, Type I curbing shall be Neenah R-3501-TR, or Neenah R-3501-TL or as approved by the Town Engineer. Manholes shall not be used to drain roll curb and gutter, Type I curbing. East Jordan 7495 is also acceptable.
- 3.) Castings for inlets which drain open pavement areas without curbing shall be Neenah R-3402-E or as approved by the Town Engineer. East Jordan ???? is also acceptable.
- 4.) Castings for manholes which drain open pavement areas without curbing shall be Neenah R-2501 or as approved by the Town Engineer. East Jordan ???? is also acceptable.
- 5.) Castings for use on inlets or manholes which drain swales or dry bottom detention basins shall be Neenah R-2560 or as approved by the Town Engineer. East Jordan ???? is also acceptable.
- 6.) Castings for manholes which do not collect surface water shall be Neenah R-1772-A or as approved by the Town Engineer. East Jordan 1022-Z1 is also acceptable.
- 7.) All castings shall be stamped "DUMP NO WASTE".

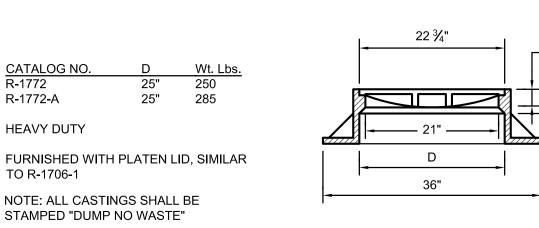


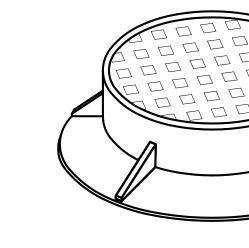




# R-3501-T(L&R) NEENAH CURB INLET FRAME, GRATE & CURB BOX DETAIL

STAMPED "DUMP NO WASTE"





## STORM MANHOLE R-1772-A WITH CONCEALED PICK HOLES

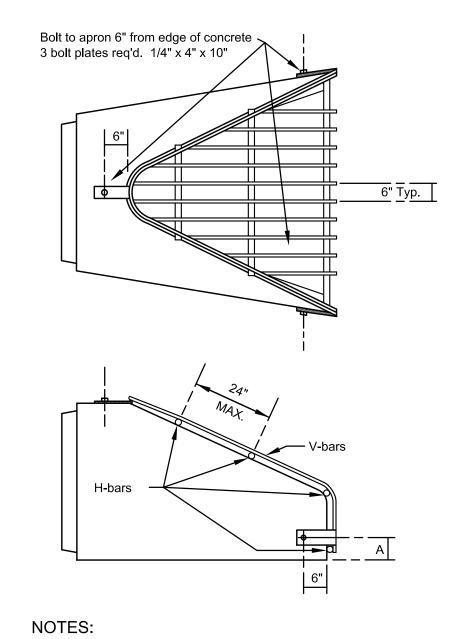
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RECOMMEND FOR APPROVAL	Mark J DESIGN ENGINEER	7/12/05 DATE	
APPROVED	PUBLIC WORKS COMMISIONER	7/12/05 DATE	
APPROVED	TOWN COUNCIL PRESIDENT	7/12/05 DATE	

## **TOWN OF McCORDSVILLE**

**TOWN STANDARDS STORM SEWER STRUCTURE DETAILS**  **OF 10** 

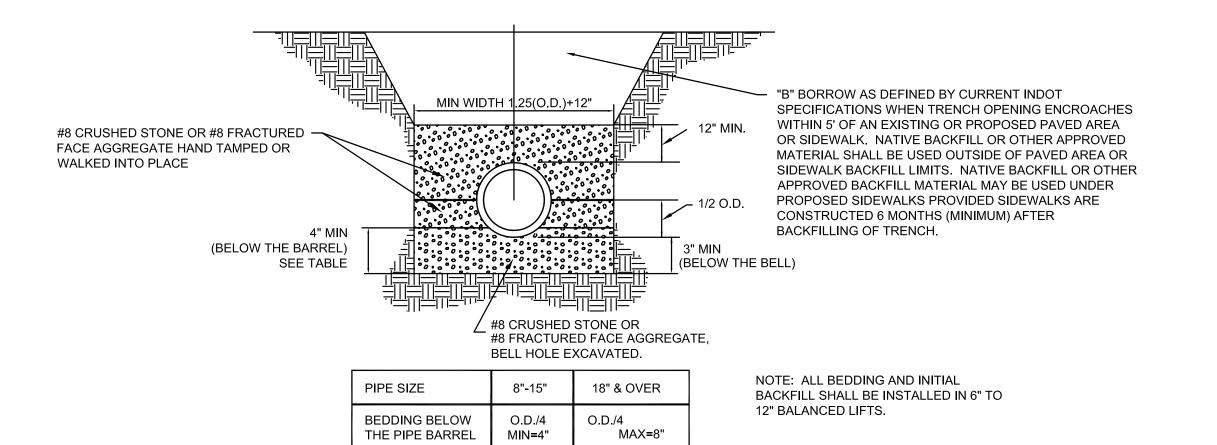


- 1. BARS & PLATES ARE HOT-ROLLED STEEL.
- 2. BARS, PLATES & PIPE ARE FINISHED
- WITH 2 COATS OF ALUMINUM PAINT.
  3. BOLTS ARE GALVANIZED.

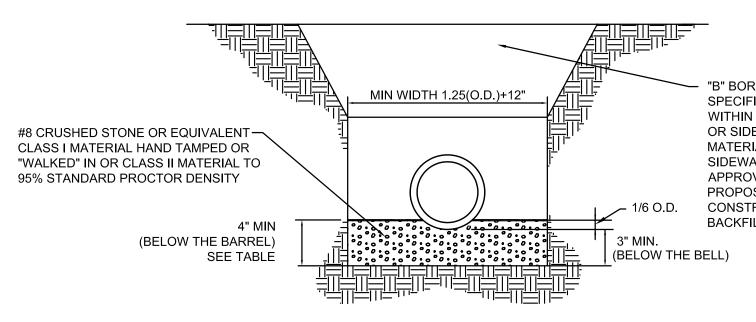
AVAILABLE, SPECIAL ORDER.

- 4. SEE STD. PLATES A-10 & A-11 FOR APRON
- DIMENSIONS.
  5. TRASH GUARDS WITH DIFFERENT DIAMETER BARS ARE

## TRASH GUARDS FOR CONCRETE APRONS



## FLEXIBLE PIPE (HDPE & PVC) TRENCH DETAIL

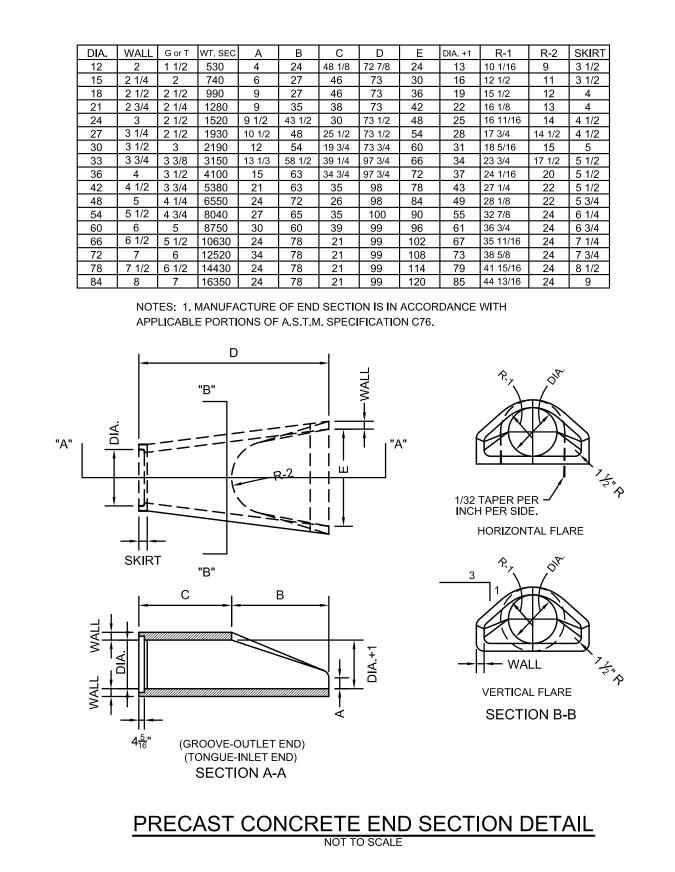


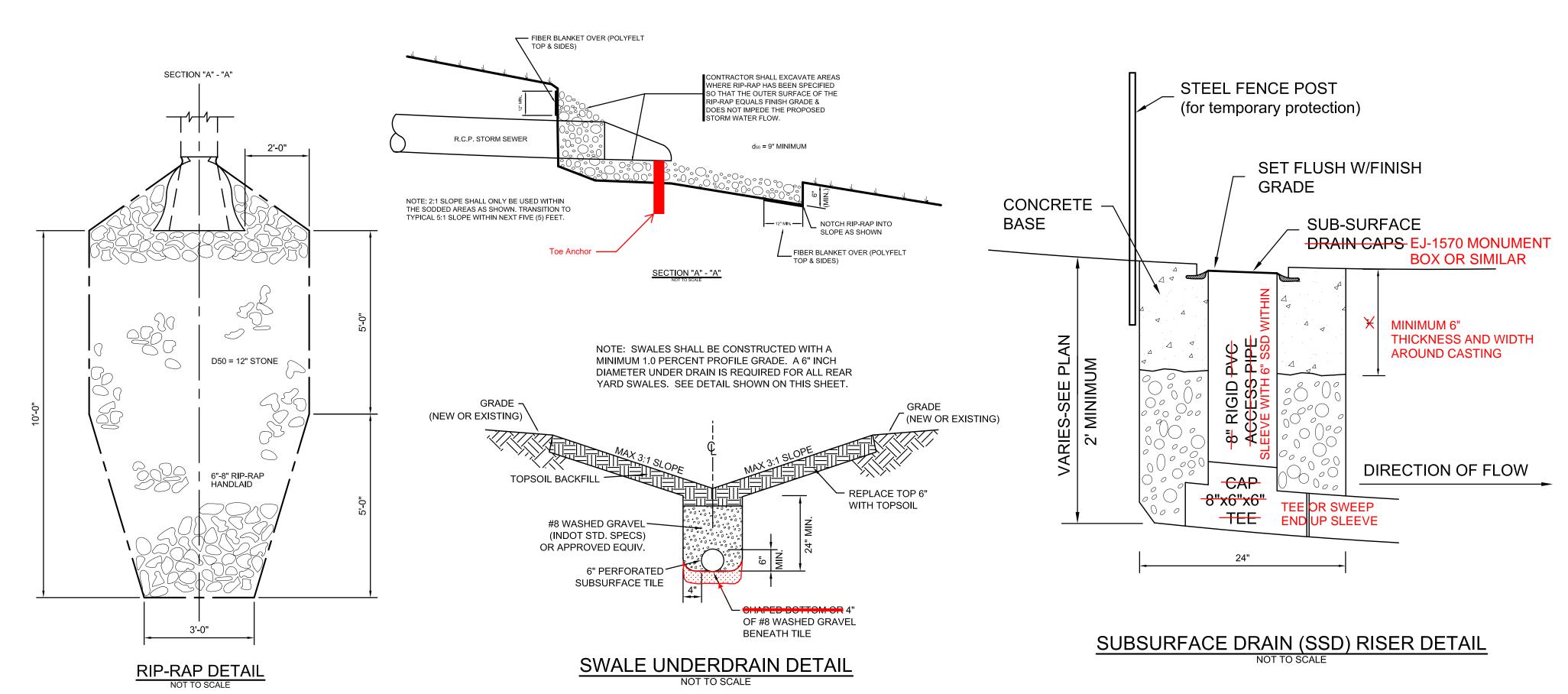
"B" BORROW AS DEFINED BY CURRENT INDOT
SPECIFICATIONS WHEN TRENCH OPENING ENCROACHES
WITHIN 5' OF AN EXISTING OR PROPOSED PAVED AREA
OR SIDEWALK. NATIVE BACKFILL OR OTHER APPROVED
MATERIAL SHALL BE USED OUTSIDE OF PAVED AREA OR
SIDEWALK BACKFILL LIMITS. NATIVE BACKFILL OR OTHER
APPROVED BACKFILL MATERIAL MAY BE USED UNDER
PROPOSED SIDEWALKS PROVIDED SIDEWALKS ARE
CONSTRUCTED 6 MONTHS (MINIMUM) AFTER
BACKFILLING OF TRENCH.

PIPE	E SIZE	8"-15"	18" & OVER
	DING BELOW	O.D./4	O.D./4
	PIPE BARREL	MIN=4"	MAX=8"

NOTE: ALL BEDDING AND INITIAL BACKFILL SHALL BE INSTALLED IN 6" TO 12" BALANCED LIFTS.

## RIDGID PIPE (RCP) TRENCH DETAIL





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	APPROVED	TOWN COUNCIL PRESIDENT	7/12/05 DATE

# TOWN OF McCORDSVILLE

TOWN STANDARDS
STORM SEWER BEDDING
DETAILS AND GENERAL NOTES

7 OF 10

#### GENERAL NOTES

- 1.) Sanitary sewer pipe of other material not meeting Town of McCordsville Standards shall require the prior written approval of the Town Engineer.
- 2.) The Contractor shall submit information to the Town Engineer showing conformance with these specifications upon request.
- 3.) Forty-eight (48) hours notice shall be given to the Town Engineer prior to the start of sewer construction and prior to any testing.
- 4.) The contractor shall be responsible for verifying that all state highways, city, and county permits have been obtained by the developer prior to start of construction.
- 5.) Backfill around all structures and all cuts under paved areas with B-barrow as defined by current INDOT specifications. Trenches opening within 5-feet of paved roadways shall be backfilled with B-barrow as defined by current INDOT specifications. Backfill under sidewalks shall be B-barrow; unless the walks are constructed a minimum of 6 months after backfill has been in place. The Town of McCordsville may require an analysis of the B-barrow to confirm its compliance with INDOT specifications at the contractor's expense.
- 6.) Water and sewer line crossings and separations shall be in accordance with 327 IAC 3-6-9.
- 7.) Trench shall be opened sufficiently ahead of pipe laying to reveal obstruction, and shall be properly protected and/or barricaded when left unattended.
- 8.) No water shall be permitted to flow into the sanitary sewer system during construction. The contractor shall utilize a pump to keep the water level below the pipe. Pump discharge shall be directed to a storm outlet in accordance with local, state and federal laws and regulations. Any pipe entering existing sewers shall be plugged with screw type mechanical, braced plug and tied in place until such time as all tests on the sewers have been completed and the lines have passed all punch lists.
- 9.) The contractor shall use a laser and target wherever possible to insure proper construction at the
- 10.) The contractor shall provide measurements of the slope of the sewer for each manhole section as construction progresses. Such measurements shall be certified by a registered land surveyor or engineer and be available on-site for observation by the Town Engineer. No more than three manhole sections can be constructed in advance of such measurements.
- 11.) The contractor shall be required to furnish the developer's engineer with a set of prints, marked in red pencil, showing actual sewer location and invert, to include lateral location, depth and length. Such asbuilt prints must be received by the developer's engineer before the final contract payment can be authorized. The sanitary sewer laterals and stubs termination shall be indicated on the surface with a 2"x4" wood board or other appropriate marker set immediately above the said termination point.
- 12.) Record drawings shall be provided to the Town Engineer for review and approval. Once approved, two copies and electronic images of the approved record drawings will be provided. The electronic images will be in an acceptable format approved by the Town Engineer. A site plan in state plane coordinates compatible with the Hancock County GIS system will also be provided with the electronic files showing the property lines, easements, streets and right-of-ways and as-built locations of the sanitary sewer, storm sewer and water lines.

#### SANITARY SEWER PIPE

- 1.) Sanitary sewer pipe between 6 and 15 inches in diameter shall be SDR 35 PVC in accordance with ASTM D3034 and ASTM 2321. Sanitary sewer pipe buried 15 feet or greater shall be SDR 26 PVC in accordance with ASTM D3034. PVC pipe shall have grooved bell and gasket. The pipe shall be made of PVC plastic in accordance with ASTM D1784.
- 2.) Sanitary sewer pipe greater than 15 inches in diameter shall be either:
- a. PVC SDR 35 in accordance with ASTM D3034 and ASTM 2321. PVC pipe shall have grooved bell and gasket. The pipe shall be made of PVC plastic as defined in ASTM D1784. Sanitary sewer pipe buried 15 feet or greater shall be SDR 26 PVC in accordance with ASTM D3034
- b. Profile sewer in accordance with ASTM F949. The pipe and fittings shall have a minimum cell classification of 12454 in accordance with ASTM D1784. The joints shall be push-on bell and spigot type using elastomeric ring gaskets conforming to ASTM D3212 and ASTM F477. The pipe shall have a minimum stiffness of 46 PSI when measured in accordance with ASTM D2412. Profile sewer pipe is not permitted at depths 15 feet or greater.
- 3.) PVC sewer fittings shall be SDR 26 in accordance with ASTM D3034. Fittings in sizes through 8-inches shall be molded in one piece with elastomeric joints and minimum socket depths as specified in sections 6.2 and 7.3.2. Fittings 10-inches and larger shall be molded or fabricated in accordance with section 7.11 with manufacturers standard pipe bells and gaskets. Gaskets for elastomeric joints shall be molded with a minimum cross-sectional area of 0.20 square inches and conform to ASTM F-477 specification.
- 4.) The minimum slope for sewer acceptance by the Town of McCordsville are:

•	•					
ze of pipe	Minimum constructed s					
8-inch	0.40%					
10-inch	0.28%					
12-inch	0.22%					
15-inch	0.15%					
18-inch	0.12%					
21-inch	0.10%					

24-inch

In the event the contractor does not meet the minimum slopes, the sewer section and any other affected sewer sections shall be reconstructed to meet such minimum slopes.

#### SANITARY SEWER LATERALS OUTSIDE OF THE RIGHT OF WAY/EASEMENT

0.08%

- 1.) Only approved contractors may install sewer laterals. Contractors must provide proof of liability insurance and a reference list for consideration to be added to the approved list.
- 2.) If working within an existing right-of-way, the contractor must obtain a right-of-way permit from the appropriate local jurisdiction.
- 3.) Contractors are responsible for obtaining all appropriate permits prior to construction. No deviations from the approved plot plan are permitted unless instructed by the Office of Public Works. Immediately notify the office of Public Works of any conflicts or discrepancies noted on the approved plot plan. It is the sole responsibility of the owner to ensure all contractors and subcontractors comply with the approved plot plan. A copy of the approved plot plan is to be provided to the Inspector at the time of
- 4.) The portion of the lateral installed from the right-of-way/easement to the building shall be inspected by the Office of Public Works prior to being backfilled.
- 5.) Lateral inspections shall be scheduled forty-eight (48) hours in advance with the Office of Public
- 6.) A 6" diameter pipe Type I clean out shall be installed 3' away from building. A threaded plug shall be used to ensure the pipe is 100% watertight. For laterals greater than 100 LF as measured along the pipe, clean outs shall be installed at the right-of-way or property line or at 100 feet increments to provide access every 100 feet.
- 7.) Clean outs are not to be installed in sidewalks, driveways, or any other paved or unpaved traffic areas or pedestrian paths.
- 8.) All clean outs except within 3 feet of the building are to be Type II cleanouts.
- 9.) The connection of the building plumbing to the lateral shall be made with a fernco coupling within three (3) feet of the building before the cleanout except when the building has a basement. If the connection is made at the basement and there is not an adjacent slab or craw space, then a glued joint connection shall be made.
- 10.) The connection point shall not be made under porches or foundations.
- 11.) The fernco coupling shall be sealed watertight using steel band clamps. The piping on either side of the connection point shall be aligned and have no offsets or angles.

#### SANITARY SEWER LATERALS - GENERAL NOTES

- 1.) Laterals are to be constructed to the right-of-way/easement line and plugged tight with a braced plastic disc or cap capable of withstanding a low pressure air test without leakage. Only after the sanitary sewer has been tested and accepted by the Town Engineer is further installation of the laterals outside the right-of-way/easement permitted.
- 2.) Normal lateral slope is 1/4" per foot. Minimum lateral slope is 1/8" per foot. Any areas found not to comply with the minimum slope shall be removed and reinstalled.
- 3.) Lateral pipe shall be a minimum of 6" diameter and shall be SDR 35 PVC in accordance with ASTM D3034 and ASTM 2321. Laterals with any portion buried 15 feet or greater shall be SDR 26 PVC in accordance with ASTM D3034 to the terminus point either the right-of-way or easement line. PVC pipe shall have grooved bell and gasket. The pipe shall be made of PVC plastic conforming to ASTM D1784. Size and conformance shall be clearly labeled on pipe for inspection.
- 4.) All PVC sewer fittings shall be SDR 26 in accordance with ASTM D3034. Fittings shall be molded in one piece with elastomeric joints and minimum socket depths as specified in sections 6.2 and 7.3.2. Gaskets for elastomeric joints shall be molded with a minimum cross-sectional area of 0.20 square inches and conform to ASTM F-477 specification.
- 5.) All sewer laterals shall be bedded the same as the main line sewer. A minimum D/4 or 6-inches of compacted #8 stone under the pipe, 6-inches on either side of the pipe, and 12" above the pipe are required

#### 6.) Laterals are not to be installed under driveways.

- 7.) Full depth granular backfill is required for the lateral trench in areas within five (5) feet of drive ways, sidewalks or other traffic areas.
- 8.) Laterals are to be traced along the top of the pipe with a minimum size of 14 gauge wire from the wye to the clean out within three (3) feet of the building and extended above grade. The contractor will install the tracer wire utilizing a method does not require any splices in the tracer wire. The tracer wire will be mounted to the top of the pipe in at least three locations along each stick of pipe. Any splices that become necessary during construction will be sealed water tight.
- 9.) Laterals will be separated from water mains and water service lines by ten (10) feet when measured horizontally from the outside edge of the lateral to the outside edge of any existing or proposed water mains or water service lines except when crossing water mains or water service lines which shall be separated by eighteen (18) inches when measured vertically. Crossings must be at a minimum angle of 45 degrees.

#### SANITARY MANHOLES AND CASTINGS

b. With the vacuum tester set in place:

- 1.) All sanitary manholes shall be precast concrete manholes in accordance with ASTM C-478 and section 720. O-rings shall conform to C-443. Kent seal or approved equal shall also be applied to all joints and between riser rings and castings. Manhole step spacing shall be no more than 16-inches.
- 2.) The casting elevations are set by plan. However, the castings are to be adjusted in the field by the Town's representative should a discrepancy occur between plan grade and existing grade. A new manhole ring and cover shall be installed to establish grade. Maximum height of adjusting rings from the top of the cone to the bottom of the casting shall be 12-inches.
- 3.) Butyl rubber coating shall be applied around each manhole joint from 6-inches above to 6-inches below each joint. The appropriate primer shall be applied prior to applying the double row of kent seal. Each manhole joint will then be wrapped four times with minimum 15 inch wide 80 gage (0.8 mil) polyethylene plastic stretch wrap. Inside joints to be filled with non-shrink grout or precoat plug
- 4.) The manhole chimneys, including all riser rings shall be sealed the same as the manhole joints. The butyl rubber and plastic stretch wrap shall extend over the flange of the casting.
- 5.) Manhole castings shall be East Jordan casting 1022-2 or approved equal with a heavy duty self-sealing lid stamped "SANITARY SEWER." Waterproof castings shall be East Jordan casting 1022-2 WT with a heavy duty lid stamped "SANITARY SEWER" or approved equal.

#### TESTING

- 1.) Manholes shall be air tested for leakage in accordance with ASTM C1244-93, standard test method for concrete sewer manholes by the negative air pressure (vacuum) test.
  - a. Installation and operation of vacuum equipment and indicating devices must be in accordance with manufacturer's recommendations and performance specifications which have been provided by the manufacturer and accepted by the engineer.
    - 1. Using a plate testing device, connect the vacuum pump to the outlet port with the valve

    - 2. Draw a vacuum of ten (10) inches of hg. And close the valve.
  - c. Accepted standards for leakage will be established from the elapsed time for a negative pressure change from ten (10) inches to nine (9) inches of mercury. The maximum allowable leakage rate for a four (4) foot diameter manhole must be in accordance with the following: Minimum elapsed time for a manhole depth pressure change of 1 inch hg

#### 10 feet or less 60 seconds >10 feet but <15 feet 75 seconds

- >15 feet 90 seconds For manholes five (5) feet in diameter, add an additional fifteen (15) seconds and for manholes six (6) feet in diameter, add an additional thirty (30) seconds to the time requirements for four (4) foot
- d. If manhole joint sealants are pulled out during the vacuum test, the manhole must be
- disassembled and the joint sealants replaced. e. Manholes will be subject to visual inspection with all visual leaks being repaired.
- 2.) All sanitary sewer lines upon completion will be required to pass a low pressure air test. The test shall be conducted according to ASTM 1417-92, and witnessed by a representative of the Town of McCordsville. The testing shall be in accordance with Table 1. Add 0.5 psig for each foot of water above the sewer line being tested.
- 3.) Deflection tests shall be performed on all flexible\* pipe after the final backfill has been in place at least 30 days. No pipe shall exceed a vertical deflection of 5% deflection test results. (\*the following are considered non-flexible pipes: concrete pipe, ductile iron pipe, and cast iron pipe). The deflection test shall be performed with a nine-point mandrel. Proving rings shall be available.
- 4.) All sanitary sewer lines upon completion and six months prior to the expiration of the maintenance bond will be televised. The sanitary sewer lines will also be cleaned if necessary in the judgment of the Town's representative after observing the televising tapes.
- 5.) All testing shall be observed by a representative of the Town of McCordsville.

#### OIL/GREASE TRAP REQUIREMENTS

- 1.) All new commercial of industrial entities, which either generate and/or waste oil, grease or their by-products, shall construct a 1,000 gallon (minimum) grease trap. The design engineer shall submit detailed calculations for size justification of the trap. Calculations shall be accompanied with references, specifically denoted origin of sizing calculation method.
- 2.) Toilets, urinals and other similar fixtures shall not waste through the grease interceptor. All other waste shall enter through the grease interceptor, through the inlet pipe only.
- 3.) The grease interceptor and grease trap shall be sized such that it is easily accessible at all times for inspection/sampling and cleaning. The grease trap shall have a minimum of two (2) compartments with fittings designed for grease interception.
- 4.) The oil/ grease trap shall be located outside the building and at a distance far enough to allow soluble grease/oil to become insoluble.

#### SPECIFICATION TIME REQUIRED FOR A 0.5 PSIG PRESSURE DROP FOR SIZE AND LENGTH OF PIPE INDICATED FOR O=0.0015

l Pipe Diameter (in.)	2	3	4	Specification Time for Length (L) Shown (min:sec)							
	Minimum Length Time For (sec) Minimum Time (ft)	Time for Longer Length (sec)	100 ft	150 ft	200 ft	250 ft	300 ft	350 ft	400 ft	450 ft	
8	3:47	298	0.760 L	3:47	3:47	3:47	3:47	3:48	4:26	5:04	5:42
10	4:43	239	1.187 L	4:43	4:43	4:43	4:56	5:56	6:55	7:54	8:54
12	5:40	199	1.709 L	5:40	5:40	5:42	7:07	8:32	9:58	11:23	12:49
15	7:05	159	2.671 L	7:05	7:05	8:54	11:07	13:21	15:34	17:48	20:02
18	8:30	133	3.846 L	8:30	9:37	12:49	16:02	19:14	22:26	25:38	28:51
21	9:55	114	5.235 L	9:55	13:05	17:27	21:49	26:11	30:32	34:54	39:16
24	11:23	100	6.846 L	11:23	17:07	22:49	28:31	34:14	39:56	45:38	51:21

**TOWN OF McCORDSVILLE** 

**TOWN STANDARDS** 

**SANITARY SEWER** 

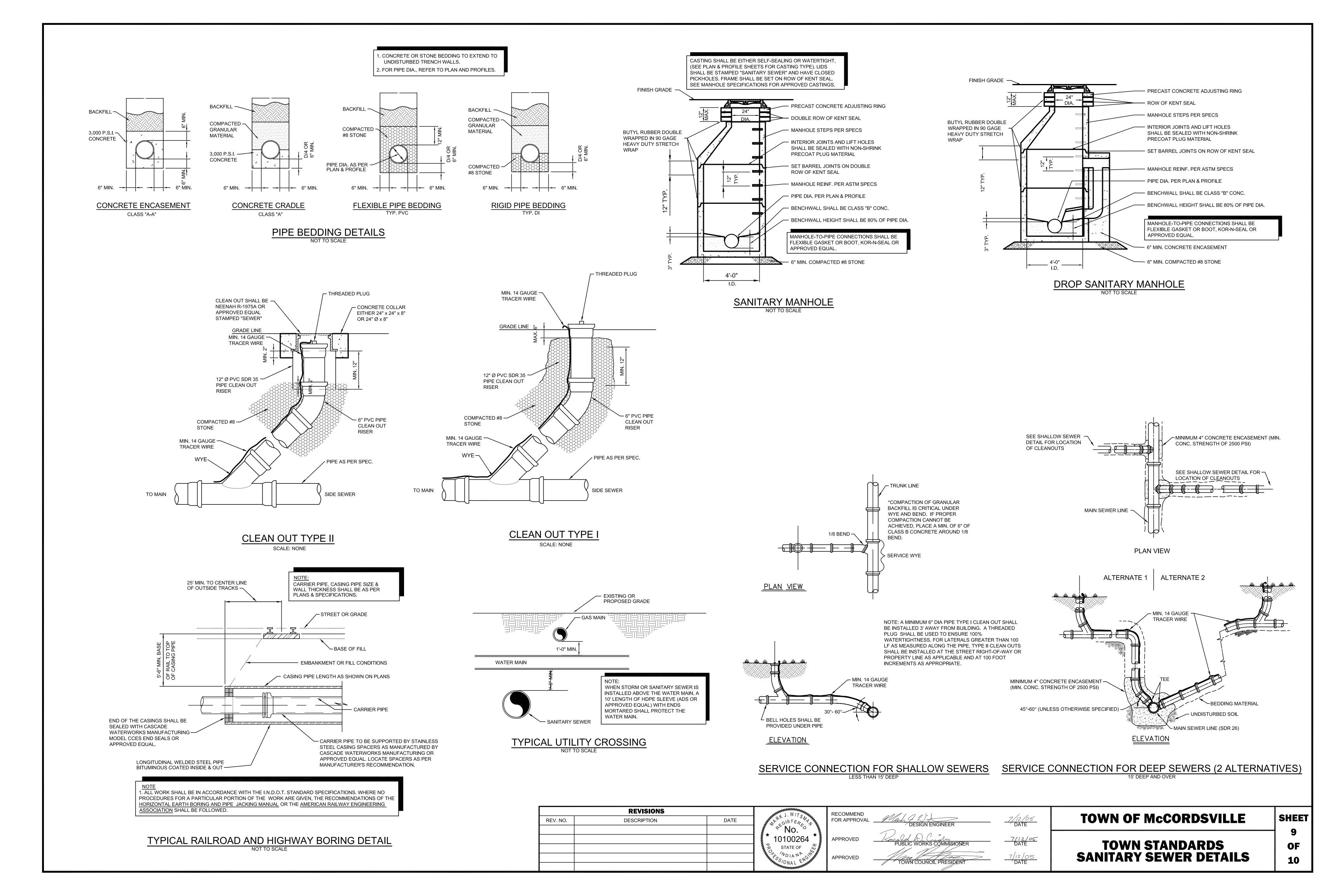
**SPECIFICATIONS** 

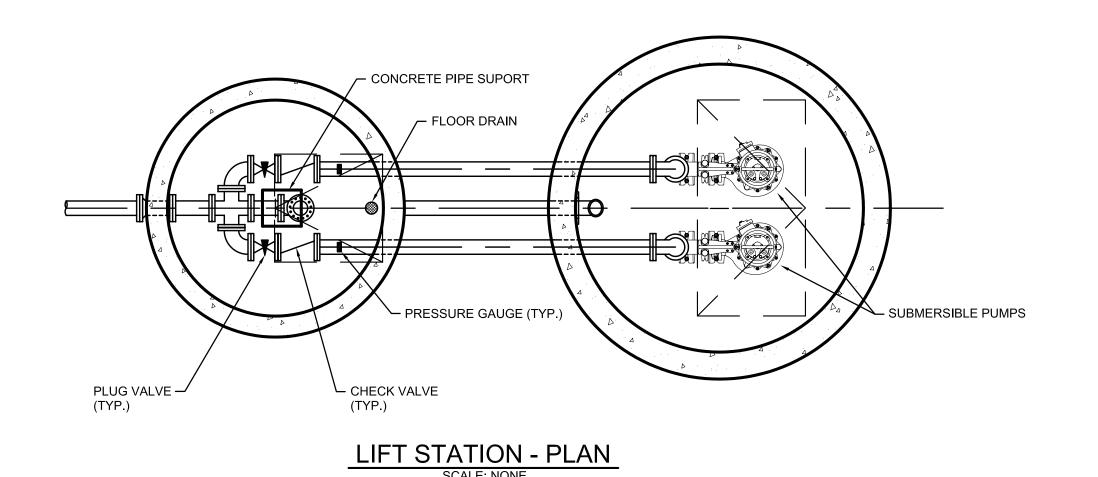
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OF

**10** 

**REVISIONS** FOR APPROVAL DESCRIPTION DATE REV. NO. No. 10100264 APPROVED STATE OF APPROVED TOWN COUNCIL PRESIDEN





3'-0" SINGLE LEAF

NOTE 14)

4"Ø FLOOR DRAIN W/ BALL

CHECK VALVE (SLOPE

FLOOR TO DRAIN)

ALUMINUM HATCH (SEE

HOIST SOCKET TO MATCH -

wet well too.

WET WELL

GATE

EXISTING TOWN HOIST

\*\* \*\* \* . . . .

• • . • • •

*∷* •...

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4" DI RISER WITH MALE CAMLOCK COUPLING -

AND PLUG VALVE ACTUATOR WITH NUT

AND CAMLOCK COUPLING SHALL BE

4"Ø HOT DIPPED GALVANIZED STEEL

RETURN BEND W/ HOT DIPPED

OVER OPENING. PAINT VENTS

Change to vent type without

SHUT OFF VALVE

PRESSURE GAUGE W/

CONCRETE PIPE -SUPPORT

#8 STONE

1'-0" MIN. COMPACTED

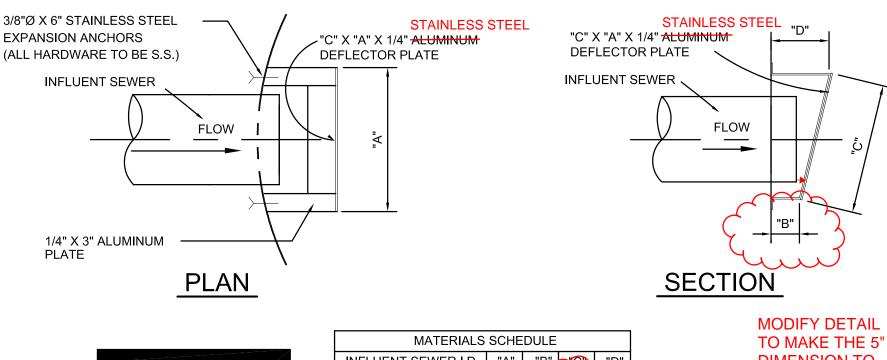
FOREST GREEN

bend.

GALVANIZED STEEL BIRD SCREEN

OPERATOR FOR BYPASS PUMPING. VALVE

ACCESSIBLE FROM HATCH (SEE NOTE 13)



ALL SURFACES CONTACTING CONCRETE SHALL HAVE A BITUMINOUS COATING

MATERIALS SCHEDULE

INFLUENT SEWER I.D. "A" "B" "C" "D"

8" 6"-10"Ø 19" 5" 13" 10"

10"-14"Ø 23" 5" 18" 10"

14"-18"Ø 27" 5" 23" 10"

18"-22"Ø 31" 5" 28" 10"

22"-26"Ø 35" 5" 37" 10"

MODIFY DETAIL TO MAKE THE 5 DIMENSION TO BE FROM PIPE TO PLATE.

DEFLECTION PLATE DETAILS

#### GENERAL NOTES

6'0" BY 3'-0" DOUBLE LEAF

TOP OF WET WELL AND VALVE PIT SET

ABOVE Q100 FLOOD ELEVATION.

Radar system

PULTRUDED RAIL

40 304 STAINLESS

STEEL GUIDE RAILS

I-BEAM OR SCHEDULE

INFLUENT PIPE INVERT

SET MIN. 6" ABOVE

HIGH LEVEL ALARM

 $\frac{3}{16}$ " GRADE 50 316L(TI)

PUMP CABLES SHALL HAVE

ACCESSIBLE FROM HATCH

S.S. LIFT CHAIN (SEE

PIN CONNECTORS

(SEE NOTE 2)

- SUBMERSIBLE PUMP

· 1'-0" MIN. COMPACTED

#8 STONE

NOTE 4)

ALUMINUM HATCH (SEE

NOTE 14)

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- 1.) Actual lift station dimensions, control settings, & pump selection to be indicated by the design engineer's certification sheet.
- 2.) Pumps "A" and "B" shall be identical, centrifugal, submersible, solids handling, non-clog design capable of handling 3" sphere solids, fibrous material, sludge, and material found in typical raw sewage. Fit replaceable bronze wear ring to volute. Pumps shall be Flygt, Hydromatic or approved equal. Manufacturer shall warrant the pumps for five years after installation. Barnes,
- All mating surfaces intended to be watertight shall be machined and fitted with nitrile rubber o-rings with sealing complete when metal-to-metal contact is made, resulting in controlled compression of o-rings without specific torque limit. Fasteners shall be 316 S.S.

Mechanical shaft seal system running in an oil reservoir shall have separate, constantly lubricated lapped seal faces. The lower seal unit between media and oil reservoir shall consist of one stationary seat and one rotating ring held in place by its own spring. The rotating seat ring and the stationary seat ring shall be made of Tungsten-Carbide. The lower seal shall be removable without disassembling the seal chamber. The upper seal between seal chamber and motor shall be of the same design with its own spring. Seals shall be maintenance free, but shall be easily inspectable.

The lift station control panel shall be stainless steel construction, NEMA 4X rating mounted on an aluminum pedestal. The control cabinet shall house the following controls and indication: Warning lights for each pump, Indicator lights, Common alarm, H-O-A switches, Silence button, Pump alternator, Warning reset buttons, Relays, Heater, Surge protection, Phase monitoring, Hour meters, and a GFI 110 volt, single phase convenience outlet.

Lower seal failure alarm shall be engaged by seal failure sensor provided in the seal chamber, which senses water intrusion through lower seal. A mini-float in the motor chamber which signals pump shutdown and alarm upon water intrusion through upper seal may be acceptable when approved by Town of McCordsville.

Over temperature alarm and pump shutdown shall be engaged by heat sensor attached to the motor windings.

Motor winding and stator lead insulation shall be class F with maximum temperature capability of 155 degree C.

Housing shall be filled with High-Dielectric Oil. Air filled housing may be acceptable when approved by Town of McCordsville.

Pump and motor shall be designed to operate partially or fully submerged in pumped media without the use of cooling jackets.

Rail system shall enable the easy removal of the pump without the need for a person to enter the wet well. A non-corrosive FRP I-beam or schedule 40 stainless steel guide rails shall be provided for each pump. The guide rail shall be supported at the bottom by the discharge elbow, aligned perfectly plumb and securely affixed to access frame. One intermediate guide rail support is required for each 9' of guide rail length.

3.) Check valve shall use packing material to seal the integral shaft or hinge pin. O-ring side plugs and O-ring shall not be used to seal integral shaft or hinge pin. Check valve shall be provided with bolted covers for easy access to the discs and shall be outside adjustable weight & Lever and shall be Clow F-5382 or approved by Town of McCordsville.

4.) Provide sufficient lift chain, float mounting cable, and pump power & control cable to enable non-spliced field adjustment. 304L stainless steel lift chain w/ 4:1 saftey factor shall have a minimum workload limit of 1100 pounds. Pump power & control cables shall be suitable for submersible pump applications and this shall be indicated by a code/legend permanently embossed on the cable. Provide sleve and pin on pump control cable and locate on bracket near hatch.

5.) Plug valve shall be hand lever operated and shall be Dezurik Fig. 118, Clow F-5412, or Town of McCordsville approved equal.

6.) Pressure gauge shall be Trerice Model 450 LFB or Town of McCordsville approved equal. Drill & tap run of pipe to install pressure gauge.

7.) Piping not within 2 feet of wet well and valve pit shall be DI Class 53, PVC ASTM D2241 SDR 21, PVC AWWA C900 or C905, or Town of McCordsville approved equal.

8.) Piping in and within 2 feet of wet well and valve pit shall be class 53 flanged ductile iron pipe.

9.) Piping, valves, and fittings in wet well and valve pit shall be factory primed Tnemec series 140 - 1211 to a dry film thickness of 5.0 to 11.0 mils and shall be field painted with Tnemec series 69 to a dry film thickness of 5.0 to 6.0 mils.

- 10.) Lift station and valve pit manholes shall be pre-cast concrete in accordance with ASTM C-478, with rubber gaskets equal to ASTM-443 with double row of 1/2" Hamilton Kent-Seal Extrudable Preformed Gasket material or Town of McCordsville approved equal. Exterior joints to have butyl rubber applied over the joint to a minimum of 1'-0" above and below the joint. Interior joints are to be sealed with non-shrink grout or precoat plug material.
- 11.) Valve pit shall be constructed on undisturbed soil or compacted granular material compacted with ½ inch nominal size to 95% standard proctor density.
- 12.) Horizontal projections from precast integral base and riser may be required to enable the weight of the vertical soil ring above the projection to resist buoyancy forces. See design engineer's certification sheet.
- 13.) Camlock flanged coupler and dust cap shall be used within valve vault. Camlock coupling and eccentric plug valve on by-pass line shall be 6" diameter with transition to force main size occurring with concentric reducer placed on top of base elbow. Fix operating nut for eccentric plug in vertical position to enable wrench operation from surface. Layout of all valve vault fittings and equipment to be based upon by-pass line being up close to hatch opening as shown.
- 14.) Aluminum hatches shall be Bilco, Halliday or Town of McCordsville approved equal. Leaf shall be ¼" aluminum diamond plate live load rated to 300PSF. Access frames and covers shall be 1/4 inch thick one-piece, mill finish, extruded aluminum frame, incorporating a continuous concrete anchor. All surfaces contacting concrete shall have a bituminous coating. Hatch shall be provided with type 316 S.S. hardware throughout, compression spring operators, automatic hold-open arm with release handle, and non-corrosive locking bar used in conjunction with a Town of McCordsville supplied padlock. MODIFY TO INCLUDE
- 15.) Sewer connection to wet well shall be KOR-N-SEAL, A-LOK, DURA-SEAL, or Town of McCordsville approved equal.
- 16.) Force main penetrations of wet well shall be KOR-N-SEAL, A-LOK, DURA-SEAL, or Town of McCordsville approved equal.
- 17.) Automatic pump control system shall include all necessary items and appurtenances, which might normally be considered a part of a complete system. System shall be supplied by one manufacturer, shall be factory assembled, wired and tested, and shall be per complete electrical drawings and instructions. Major components and sub-assemblies shall be identified as function with laminated, engraved, bakelite nameplates. System shall be built in a NEMA 4X S.S. enclosure suitable for the specified horsepower and voltage of the pumps. The outer door of the panel shall be a hinged dead front with provisions for padlocking. Inside shall be a separate hinged panel to protect all electrical components, H-O-A switches, run lights, circuit breakers, etc., mounted such that only the faces protrude through said panel with no wiring fixed to said panel. The manufacturer shall warrant the control center for one year after installation covering 100% parts and labor.

Provide the services of a factory-trained, qualified representative to inspect, to adjust, and to place the system in trouble-free operation and to instruct the operating personnel in the proper operation and care of the system.

All major components of control center shall be available from local sources. Pump manufacturer shall accept the control center in writing to ensure unit responsibility and warranty.

Provide a disconnect switch housed in a separate NEMA 4X S.S. enclosure with external operation handle capable of being locked in the "on" position. Provide 480 volt, 200 amp, 4 wire weatherproof receptacle, Crouse Hindes AR204 or equal, to match plug on existing portable generator.

Provide a Omni-site.net Crystall WM housed within the NEMA 4X control panel.

An incoming power terminal block shall be located at the bottom of the control enclosure. A lightning arrestor shall be provided at the terminal block and connected to each line of the incoming side of the power input terminals. A single main fusible/breaker disconnect switch of adequate size to provide power for control, operation, and appurtenant components shall be provided. Provide a circuit breaker and magnetic starter with each leg manual reset overload protected for each pump. Starters shall have auxiliary contacts on  $3\Phi$  applications to operate both pumps simultaneously. Provide a circuit breaker and transformer to power the control panel with  $1\Phi$ , 115 volt service for all control functions. Provide a green "run" light and H-O-A switch to enable field connections.

Materials and installation of the required equipment grounding shall be in accordance with NEC section 250-83(c). All wiring shall have not less than 600 volt insulation. Wiring and buss shall be in accordance with NEC, state, local, and NEMA standards. All wiring shall be color coded.

Minimum 4" diameter, schedule 40 conduit shall be provided from wet well to control panel enabling pump power & sensor cables and float switch cables to be easily pulled. Seal conduit at control panel to prevent sewer gases from entering. All conduits, fittings, or connections shall enter from the bottom of enclosures.

Sump level rise to lead pump run float causes lead pump to operate. Lead pump operating and sump level falling to pumps off float causes lead pump to shut off. Lead pump operating and sump level rising to lag pump run float causes lag pump to operate. Lag pump operating and sump level falling to pumps off float causes both pumps to shut off. Sump level rise to high level alarm causes high level alarm to operate. An alternating relay shall be provided to cause pumps to alternate whenever pumps off float is de-energized. If one pump fails for any reason, the remaining pump shall operate upon sump level rise to lag pump run float. An hour meter shall be provided for each pump to record the elapsed operating time of each pump.

18.) Four manuals shall be presented to the owner, which shall include the following minimum information: 1) Operation instructions, 2) Maintenance instructions, 3) Recommended spare parts list, 4) Lubrication schedule, 5) Structural diagrams, 6) As-built-wiring diagrams, & 7) Bill of materials.

Wet well pump operation shall be controlled with a radar level system with float Vega radar sensor or approved equal. PLC to control the level sensor and float back up. Getting email with language frrom BLAnderson.

Wet well pump operation shall be controlled with a VegaPuls C21 radar sensor for continuous level measurement along with IDEC FT1A SmartAXIS controller or engineer approved equal.

# PUMP MANUFACTURER'S RECOMMENDATION LIFT STATION SECTION SCALE: NONE

CONCRETE FILLET AS PER —

REVISIONS

REV. NO. DESCRIPTION DATE

1 Various changes in red 4/18/2023



RECOMMEND
FOR APPROVAL

APPROVED

APPROVED

APPROVED

APPROVED

APPROVED

APPROVED

APPROVED

APPROVED

TOWN COUNCIL PRESIDENT

**TOWN OF McCORDSVILLE** 

TOWN STANDARDS
SANITARY SEWER LIFT STATION
STANDARDS & GUIDELINES

SHEET 10 OF

**10**