

SUBMIT FOR STORM WATER POLLUTION PREVENT PLAN (SWPPP) APPROVALS

BERRY CHASE SECTION ONE

WHITE RIVER TOWNSHIP, JOHNSON COUNTY, INDIANA CONSTRUCTION PLANS

PREPARED FOR:

M/I HOMES OF INDIANA

8425 WOODFIELD CROSSING BLVD., SUITE 100W

INDIANAPOLIS, IN 46240

(704) 363-4491

CONTACT: MICHAEL REEVE

DESIGN DATA:

BERRY CHASE BLVD.

VINEYARD BLVD./PERSIAN ST.

RIDGEVINE AVE.

SWEETLAND AVE.

0.12 MILE
0.32 MILE
0.11 MILE

PROJECT DATA:

ACRES 19.179 ac.
LOTS 40
LOTS/ACRE 2.09 LOTS/AC.

DATES:

EST. PROPOSED START DATE: SPRING 2023 EST. COMPLETION DATE: FALL 2023

USE:

EXISTING ZONING:

SIDE AND REAR YARD SETBACKS:

1. SIDE YARD: 10' MIN., 20' AGGREGATE.

2. REAR YARD: 20' MIN.

UTILITY / GOVERNING AGENCY CONTACT INFORMATION

WATER
BARGERSVILLE UTILITIES
24 N. MAIN STREET
BARGERSVILLE, IN 46106
(317) 422–3120
GLENDA JOHNSTON
GJOHNSTONOTOWNOFBARGERSVILLE.ORG

GAS
CENTERPOINT ENERGY

SANITARY SEWER
GREENWOOD SANITARY
367 S. WASHINGTON
GREENWOOD, IN 46142
(317) 888–1254
KEITH MEIER
MEIERKOGREENWOOD.IN
FIRE DEPARTMENT
WHITE RIVER FIRE DEP

KIM.KELLY@CENTERPOINTENERGY.COM

600 INDUSTRIAL DRIVE

FRANKLIN, IN 46131

(317) 736-2915 KIMBERLY KELLY GREENWOOD, IN 46142
(317) 888–1254
KEITH MEIER
GMEIERK®GREENWOOD.IN.GOV

FIRE DEPARTMENT
WHITE RIVER FIRE DEPARTMENT
HEADQUARTERS / STATION 53
366 NORTH MORGANTOWN ROAD
GREENWOOD, IN 46143
(317) 881–4365
ELIZABETH SWEARINGEN
ESWEARINGEN®CO.JOHNSON.IN.US

SCHOOL DISTRICT
CENTER GROVE SCHOOL DISTRICT
4800 W. STONES CROSSING RD.
GREENWOOD, IN 46143
(317) 881–9326

(317) 888-8337

BRADEN PROCHNOW

HEALTH DEPARTMENT
JOHNSON COUNTY HEALTH DEPARTMENT
460 N MORTON ST., SUITE A,
FRANKLIN, IN 46131
(317) 346–4365
ELIZABETH SWEARINGEN
ESWEARINGEN@CO.JOHNSON.IN.US

CONSERVATION DISTRICT
JOHNSON COUNTY SOIL & WATER
550 E. JEFFERSON STREET
FRANKLIN, IN 46131
(317) 736–9540 EXT. 102
KATHY HASTE
KATHY—HASTE@IASWCD.ORG

ARKANOFFR@CENTERGROVE.K12.IN.US

KATHY—HASTE@IASWCD.ORG

TELEPHONE
AT&T COMMUNICATION
240 N. MERIDIAN STREET
INDIANAPOLIS, IN. 46204
(317) 610—5469
DAVE WIRE
WW2949@ATT.COM

POWER
JOHNSON COUNTY REMC
750 INTERNATIONAL DRIVE
FRANKLIN, IN 46131–9733
(317) 736–6174
GABE GAYNOR
GAYNORGOJCREMC.COM

CABLE
COMCAST CABLE
1600 WEST VERNAL PIKE
BLOOMINGTON IN 47404
(812) 860–3090
STEVE MCARTOR
STEVE_MCARTOROCABLE.COMCAST.COM

AND

DUKE ENERGY
2515 NORTH MORTON STREET
FRANKLIN, IN 46131
JESSICA TURNER
(812) 662-2007
JESSICA.TURNER30DUKE-ENERGY.COM

SURVEYORS OFFICE
JOHNSON COUNTY SURVEYOR
86 W. COURT STREET
FRANKLIN, IN 46131
(317) 346-4341
GREGG CANTWELL
GCANTWELL
GCA

- DISTURBED AREA IN ACRES

ESTIMATE START AND COMPLETION DATES

HIGHWAY DEPARTMENT
JOHNSON COUNTY HIGHWAY DEPARTMENT
1051 HOSPITAL RD.
FRANKLIN, IN 46131
(317) 346-4635
NATHANIAL ANNIS
NANNIS©CO.JOHNSON.IN.US

PLANNING & ZONING
JOHNSON COUNTY PLANNING & ZONING

JOHNSON COUNTY PLANNING & ZONING
86 W. COURT STREET
FRANKLIN, IN 46131
(317) 346–4350
RICHARD HOOVER
RHOOVER@CO.JOHNSON.IN.US

MHANS

MICHELE HANSARD, AICP
DIRECTOR
MHANSARD@CO.JOHNSON.IN.US

RICHARD R. HOOVER, P.E. PLANNING ENGINEER

CERTIFIED BY:

PREPARED BY:

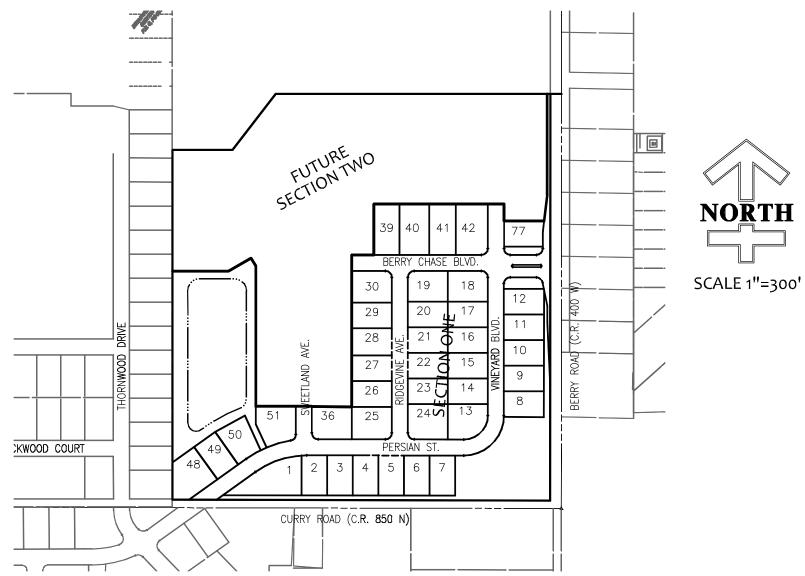
PROJECTS plus

GREENWOOD SURVEYING COMPANY

CIVIL ENGINEERING — LAND SURVEYING LAND PLANNING — CONSTRUCTION MANAGEMENT 2650 Fairview Place Suite W — Greenwood, Indiana 46142 (317)—882—5003



SMITH VALLEY RD.



INDEX (OF DRAWINGS
SHEET NO.	DESCRIPTION
C101	TITLE SHEET
C201-202	EXISTING SITE PLAN
C301-302	PROPOSED SITE PLAN
C501-503	STREET PLAN & PROFILES
C401-404	ENTRANCE DETAIL
C405	INTERSECTION DETAILS
C406	DETENTION POND DETAILS
C601	TRAFFIC MAINTENANCE PLAN
C701	INTERIOR TRAFFIC CONTROL PLAN
C801-804	STORM SEWER PLAN AND PROFILES
C901-903	SANITARY SEWER PLAN AND PROFILE AND LATERAL LOCATIONS
C1001-1005	STORM WATER POLLUTION PREVENTION PLAN
C1101	WATER DISTRIBUTION PLAN
C1201-1202	STORM WATER POLLUTION PREVENTION DETAILS
C1301	STREET DETAILS
C1401	STORM SEWER DETAILS
C1501	SANITARY SEWER DETAILS
C1601	WATER DETAILS
C1701	SPECIFICATIONS

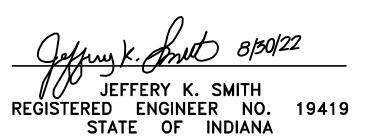
8/30/22

AGENCY FINAL APPROVALS								
DATE:	AGENCY							
	DRAINAGE							
	SANITARY – STATE							
	SANITARY – LOCAL							
	WATER — STATE							
	WATER - LOCAL							
	STREETS							
	EROSION CONTROL							

LEGAL DESCRIPTION: LATITUDE: N39*36'04", LONGITUDE: W86*10'49"

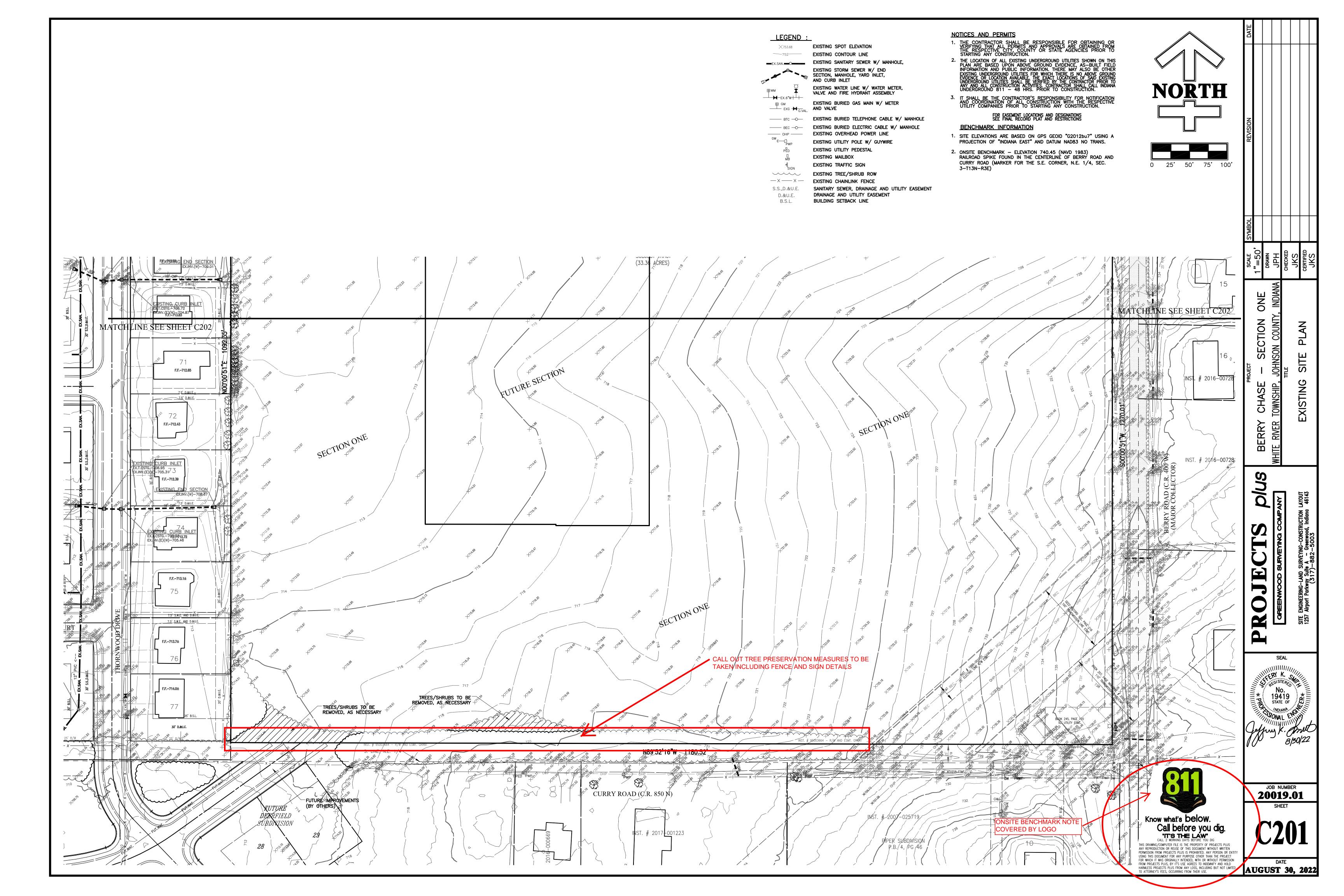
(317) 881-9326 MR. RICHARD ARKANOFF

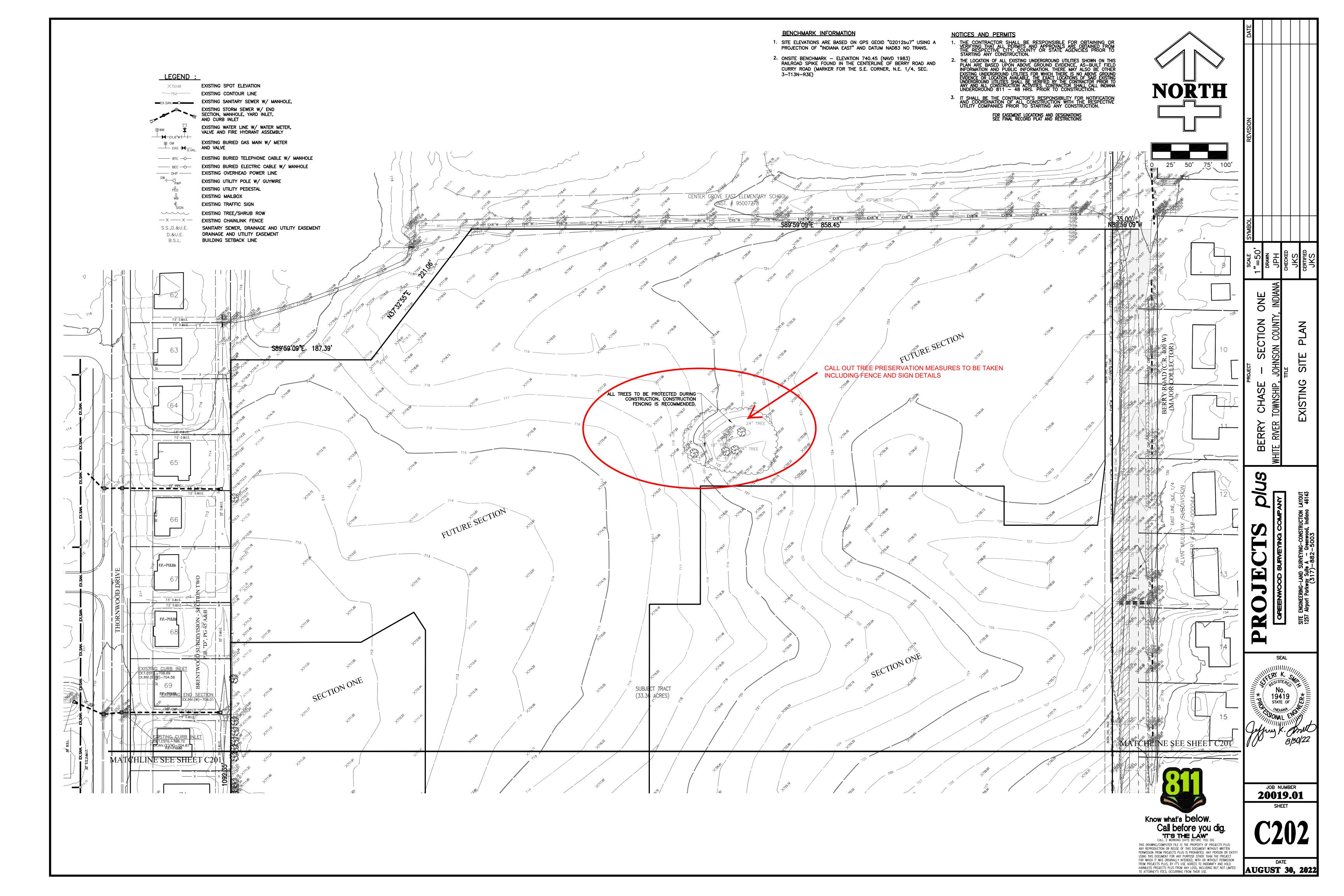
ADD LAND DESCRIPTION

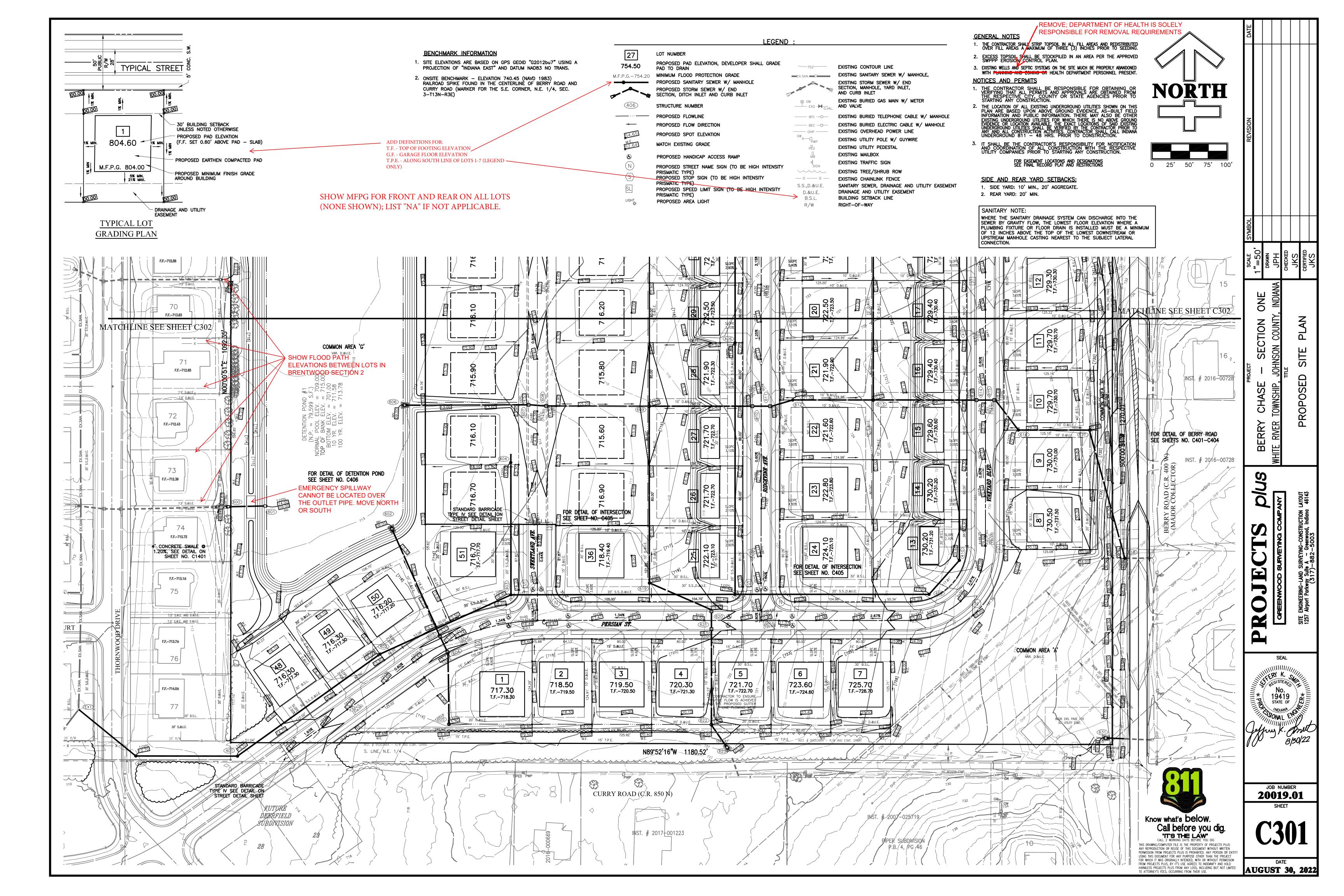


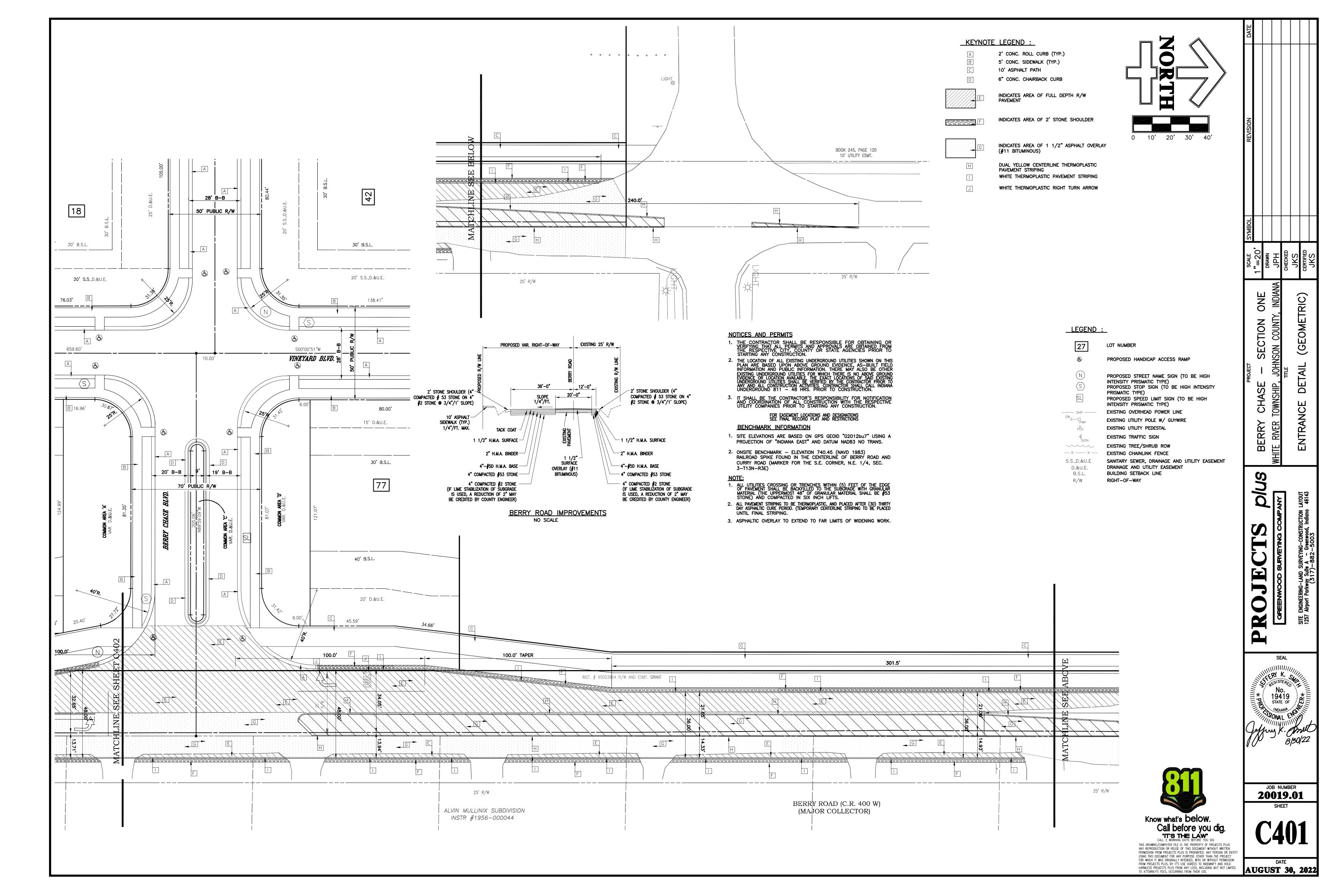


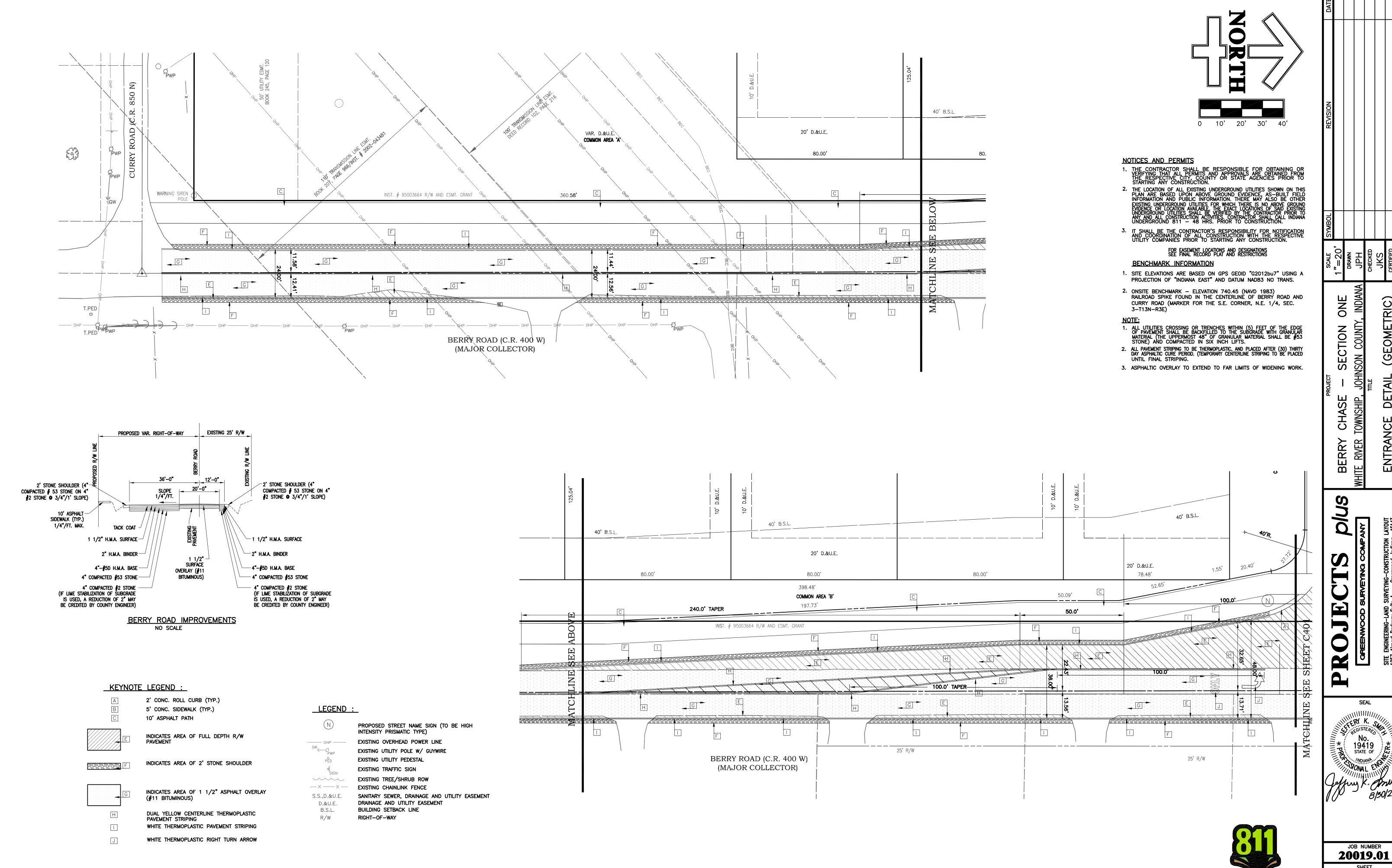
SHEET **C101**JOB NUMBER: 20019.01













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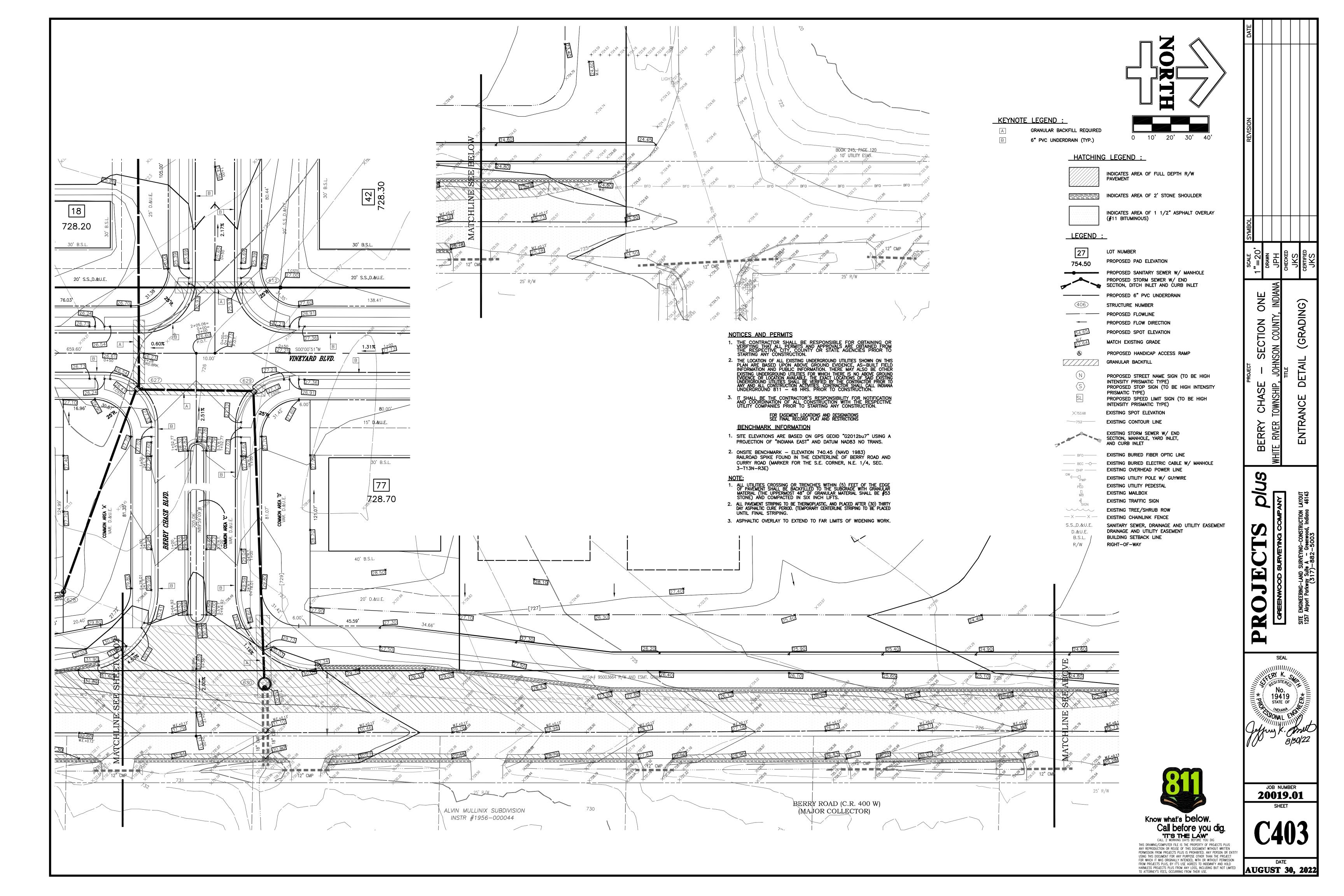
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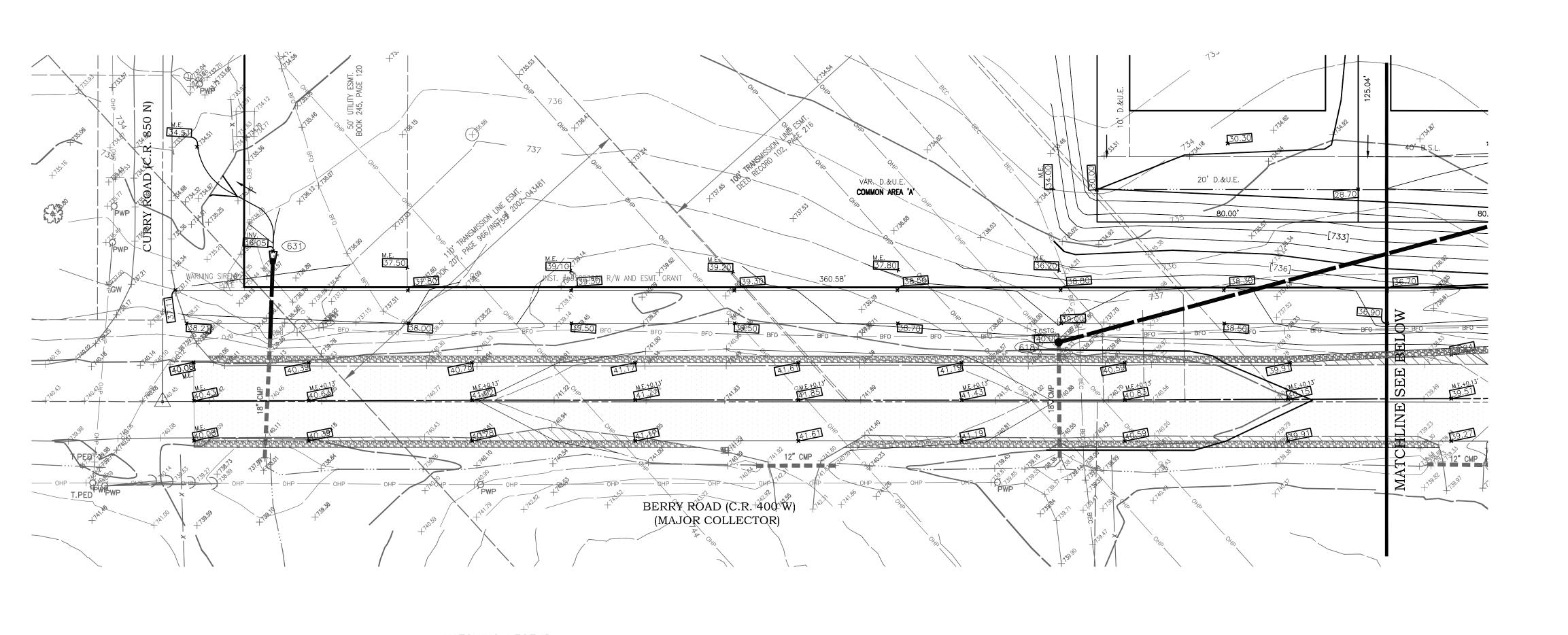
SEAL

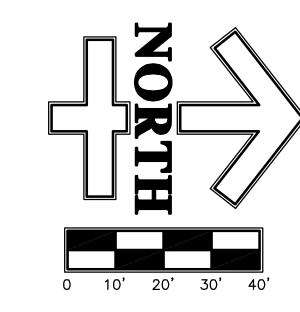
(GEOMETRIC)

DET

ENTRANCE







NOTICES AND PERMITS

- . THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING OVERIFYING THAT ALL PERMITS AND APPROVALS ARE OBTAINED FROM THE RESPECTIVE CITY, COUNTY OR STATE AGENCIES PRIOR T
- 2. THE LOCATION OF ALL EXISTING UNDERGROUND UTILITIES SHOWN ON THIS PLAN ARE BASED UPON ABOVE GROUND EVIDENCE, AS—BUILT FIELD INFORMATION AND PUBLIC INFORMATION. THERE MAY ALSO BE OTHER EXISTING UNDERGROUND UTILITIES FOR WHICH THERE IS NO ABOVE GROUND EVIDENCE OR LOCATION AVAILABLE. THE EXACT LOCATIONS OF SAID EXISTING UNDERGROUND UTILITIES SHALL BE VERIFIED BY THE CONTRACTOR PRIOR TO ANY AND ALL CONSTRUCTION ACTIVITIES CONTRACTOR SHALL CALL INDIANA
- 3. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY FOR NOTIFICATION AND COORDINATION OF ALL CONSTRUCTION WITH THE RESPECTIVE UTILITY COMPANIES PRIOR TO STARTING ANY CONSTRUCTION.

FOR EASEMENT LOCATIONS AND DESIGNATIONS SEE FINAL RECORD PLAT AND RESTRICTIONS

BENCHMARK INFORMATION

- 1. SITE ELEVATIONS ARE BASED ON GPS GEOID "G2012bu7" USING A PROJECTION OF "INDIANA EAST" AND DATUM NAD83 NO TRANS.
- 2. ONSITE BENCHMARK ELEVATION 740.45 (NAVD 1983)
 RAILROAD SPIKE FOUND IN THE CENTERLINE OF BERRY ROAD AND
 CURRY ROAD (MARKER FOR THE S.E. CORNER, N.E. 1/4, SEC.
 3-T13N-R3E)

NOTE:

- ALL UTILITIES CROSSING OR TRENCHES WITHIN (5) FEET OF THE EDGE OF PAVEMENT SHALL BE BACKFILLED TO THE SUBGRADE WITH GRANULAR MATERIAL (THE UPPERMOST 48" OF GRANULAR MATERIAL SHALL BE #53 STONE) AND COMPACTED IN SIX INCH LIFTS.
 ALL PAVEMENT STRIPING TO BE THERMOPLASTIC, AND PLACED AFTER (30) THIRTY DAY ASPHALTIC CURE PERIOD. (TEMPORARY CENTERLINE STRIPING TO BE PLACED UNTIL FINAL STRIPING.
- 3. ASPHALTIC OVERLAY TO EXTEND TO FAR LIMITS OF WIDENING WORK.

<u>HATCHING LEGEND</u>:

INDICATES PAVEMENT

INDICATES AREA OF FULL DEPTH R/W PAVEMENT

INDICATES AREA OF 2' STONE SHOULDER

INDICATES AREA OF 1 1/2" ASPHALT OVERLAY (#11 BITUMINOUS)

<u>LEGEND</u>:

PROPOSED STORM SEWER W/ END SECTION, DITCH INLET AND CURB INLET

PROPOSED 6" PVC UNDERDRAIN

STRUCTURE NUMBER

PROPOSED FLOWINE

STRUCTURE NUMBER

PROPOSED FLOWLINE

PROPOSED FLOW DIRECTION

PROPOSED SPOT ELEVATION

MATCH EXISTING GRADE

PROPOSED STREET NAME SIGN (TO BE HIGH INTENSITY PRISMATIC TYPE)

×753.68 EXISTING SPOT ELEVATION

752 EXISTING CONTOUR LINE

EXISTING STORM SEWER W/ END SECTION, MANHOLE, YARD INLET, AND CURB INLET

EXISTING BURIED FIBER OPTIC LINE

EXISTING BURIED ELECTRIC CABLE W/ MANHOLE
EXISTING OVERHEAD POWER LINE

EXISTING UTILITY POLE W/ GUYWIRE

EXISTING UTILITY PEDESTAL

EXISTING MAILBOX
EXISTING TRAFFIC SIGN

EXISTING TREE/SHRUB ROW

EXISTING CHAINLINK FENCE

S.S.,D.&U.E.

SANITARY SEWER, DRAINAGE AND UTILITY EASEMENT

DRAINAGE AND UTILITY EASEMENT

D.&U.E.
B.S.L.
R/W

DRAINAGE AND UTILITY EA
BUILDING SETBACK LINE
RIGHT—OF—WAY

BERRY ROAD (C.R.-100 W)

DESCRIPTION

DESCRI



Know what's below.

Call before you dig.

"IT'S THE LAW"

CALL 2 WORKING DAYS BEFORE YOU DIG

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No.
19419
STATE OF

MOIANA
MOI

SEAL

M

ONE

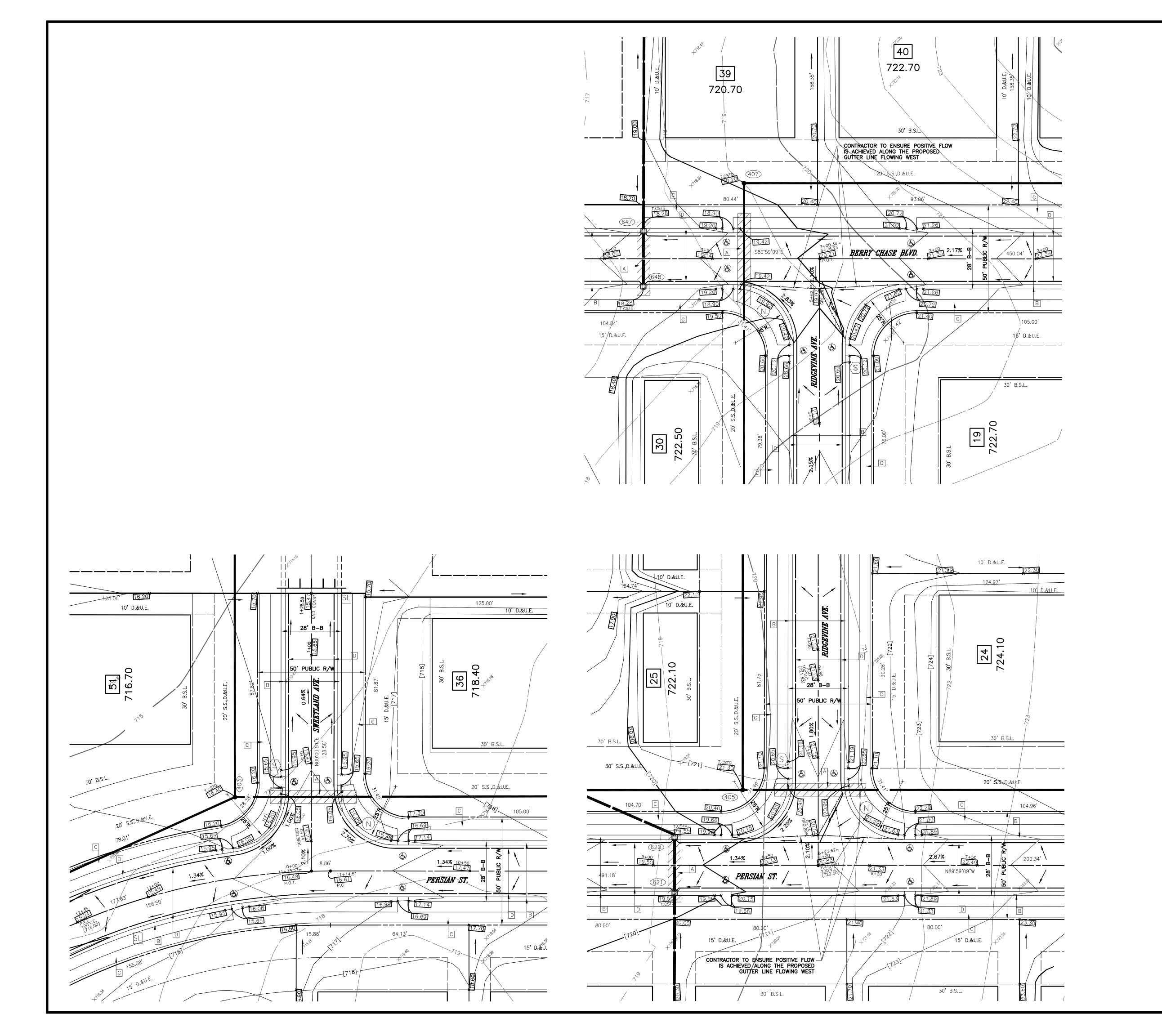
SECTION

CHASE

BERRY MITE RIVER (GRADING)

JOB NUMBER **20019.01**SHEET

C404





0 10' 20' 30' 40'

<u>LEGEND</u>:

754.50

LOT NUMBER PROPOSED PAD ELEVATION

PROPOSED SANITARY SEWER W/ MANHOLE PROPOSED STORM SEWER W/ END SECTION, DITCH INLET AND CURB INLET PROPOSED 6" PVC UNDERDRAIN STRUCTURE NUMBER

PROPOSED FLOW DIRECTION

PROPOSED SPOT ELEVATION MATCH EXISTING GRADE PROPOSED HANDICAP ACCESS RAMP

GRANULAR BACKFILL

S.S.,D.&U.E. SANITARY SEWER, DRAINAGE AND UTILITY EASEMENT DRAINAGE AND UTILITY EASEMENT D.&U.E. B.S.L. BUILDING SETBACK LINE

R/W RIGHT-OF-WAY PROPOSED STREET NAME SIGN (TO BE HIGH INTENSITY PRISMATIC TYPE)
PROPOSED STOP SIGN (TO BE HIGH INTENSITY $\langle S \rangle$

PRISMATIC TYPE) PROPOSED SPEED LIMIT SIGN (TO BE HIGH INTENSITY PRISMATIC TYPE) ONE

SECTION USON COUNTY,

CHASE TOWNSHIP,

BERRY HITE RIVER

JE

SEAL

LA REGISTERS

19419 STATE OF

STATE OF STATE OF WDIANA

DETAILS

INTERSECTION

KEYNOTE LEGEND :

GRANULAR BACKFILL REQUIRED 2' CONC. ROLL CURB (TYP.) 5' CONC. SIDEWALK (TYP.) 6" PVC UNDERDRAIN (TYP.)

- 2. TRAFFIC CONTROL DEVICES SHALL MEET I.M.U.T.C.D. STANDARDS
- THE PAVING/SUBGRADE CONTRACTOR SHALL NOTIFY THE PLANNING DEPARTMENT (317) 346-4350 AT LEAST 24 HOURS PRIOR TO PROOF ROLL ON THE PROPOSED STREETS.

NOTICES AND PERMITS

- 3. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY FOR NOTIFICATION AND COORDINATION OF ALL CONSTRUCTION WITH THE RESPECTIVE UTILITY COMPANIES PRIOR TO STARTING ANY CONSTRUCTION.

FOR EASEMENT LOCATIONS AND DESIGNATIONS SEE FINAL RECORD PLAT AND RESTRICTIONS

BENCHMARK INFORMATION

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- 2. ONSITE BENCHMARK ELEVATION 740.45 (NAVD 1983)
 RAILROAD SPIKE FOUND IN THE CENTERLINE OF BERRY ROAD AND
 CURRY ROAD (MARKER FOR THE S.E. CORNER, N.E. 1/4, SEC.
 3-T13N-R3E)



Know what's below.

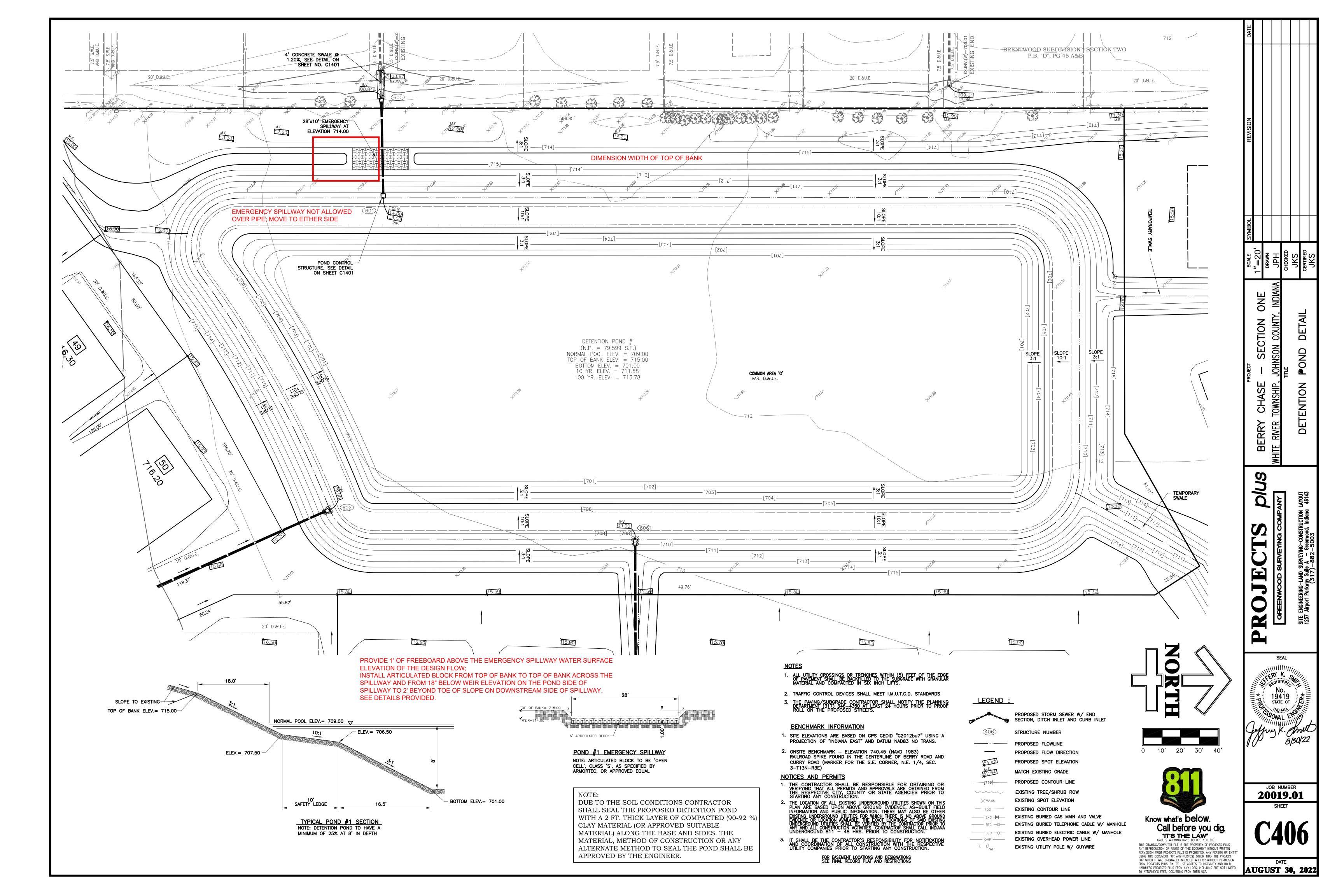
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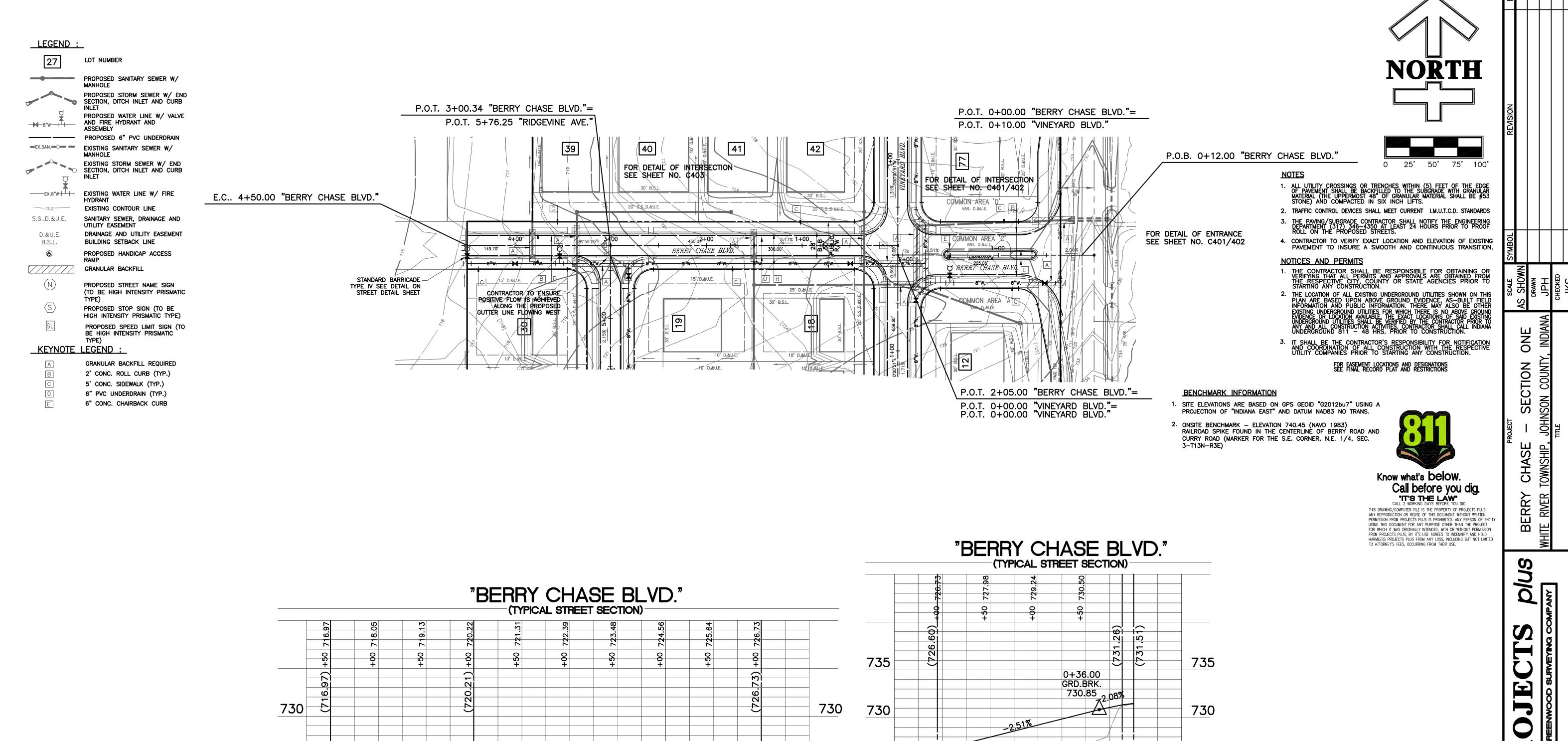
"IT'S THE LAW"

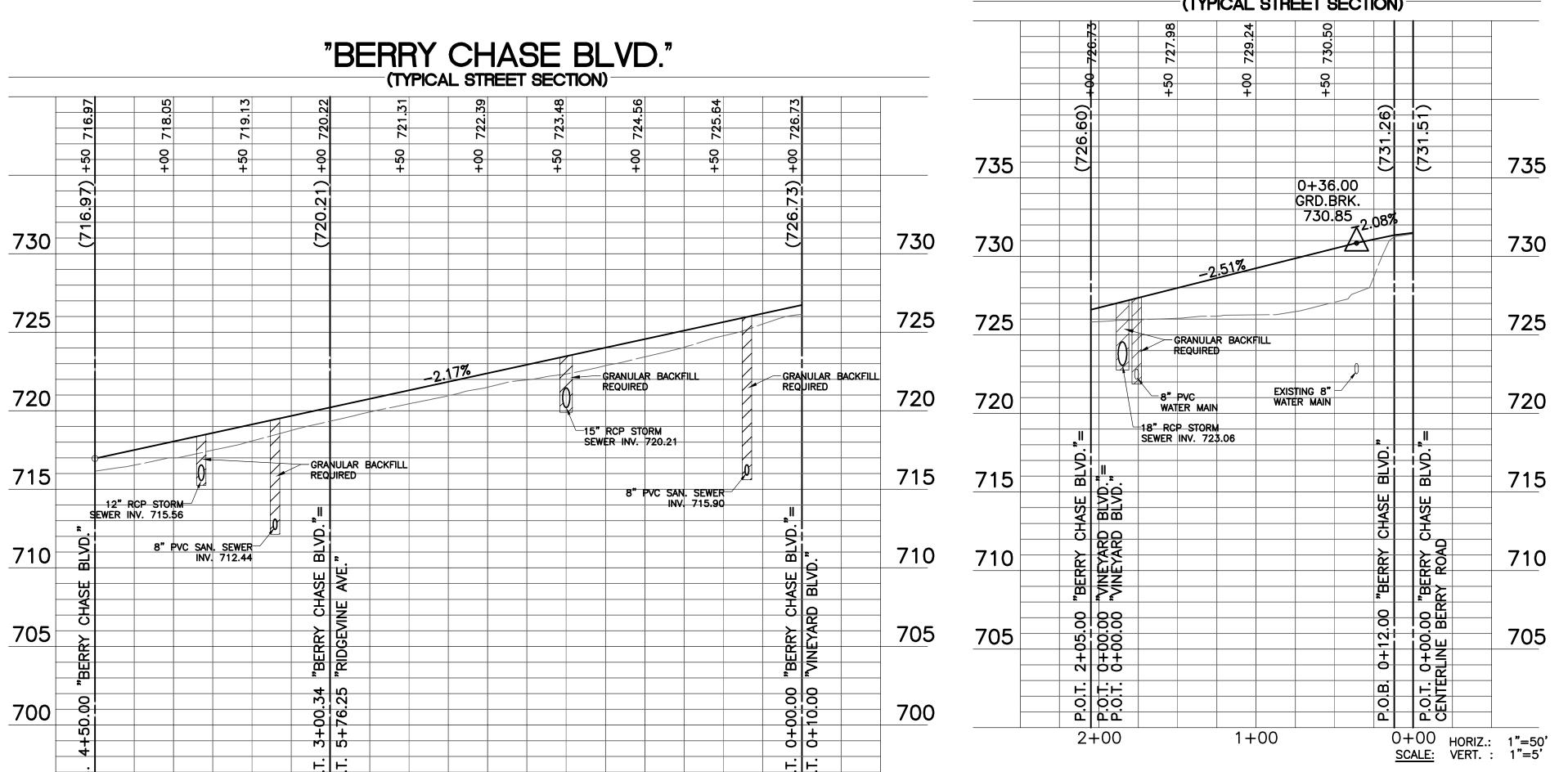
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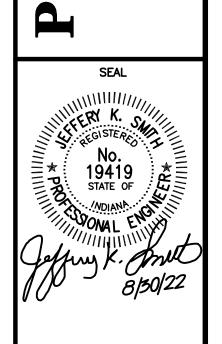
0+00 HORIZ.: 1"=50' <u>SCALE:</u> VERT. : 1"=5'

4+00

3+00

2+00

1+00



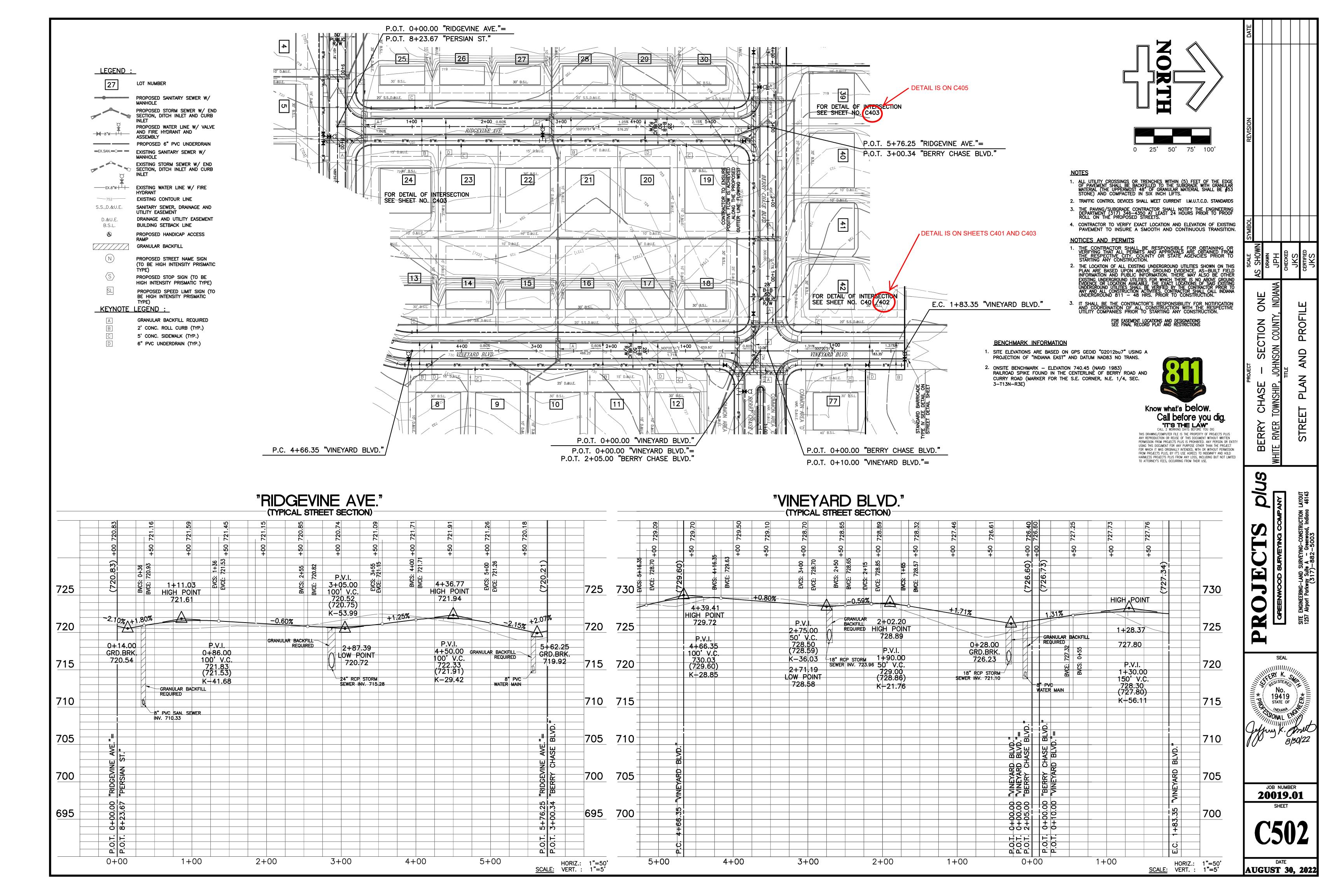
PROFIL

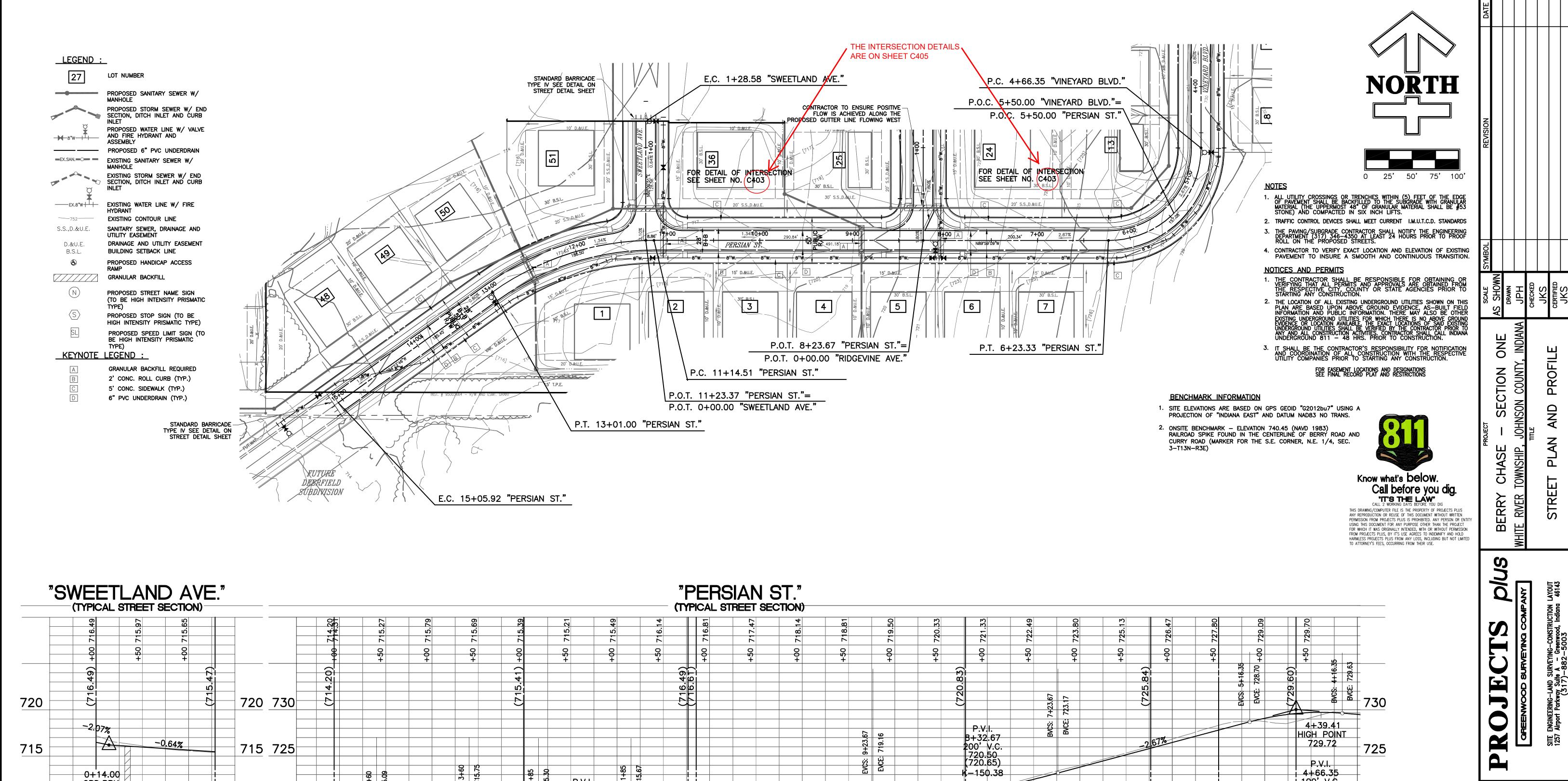
AND

STREET

JOB NUMBER **20019.01**

C501





SEAL

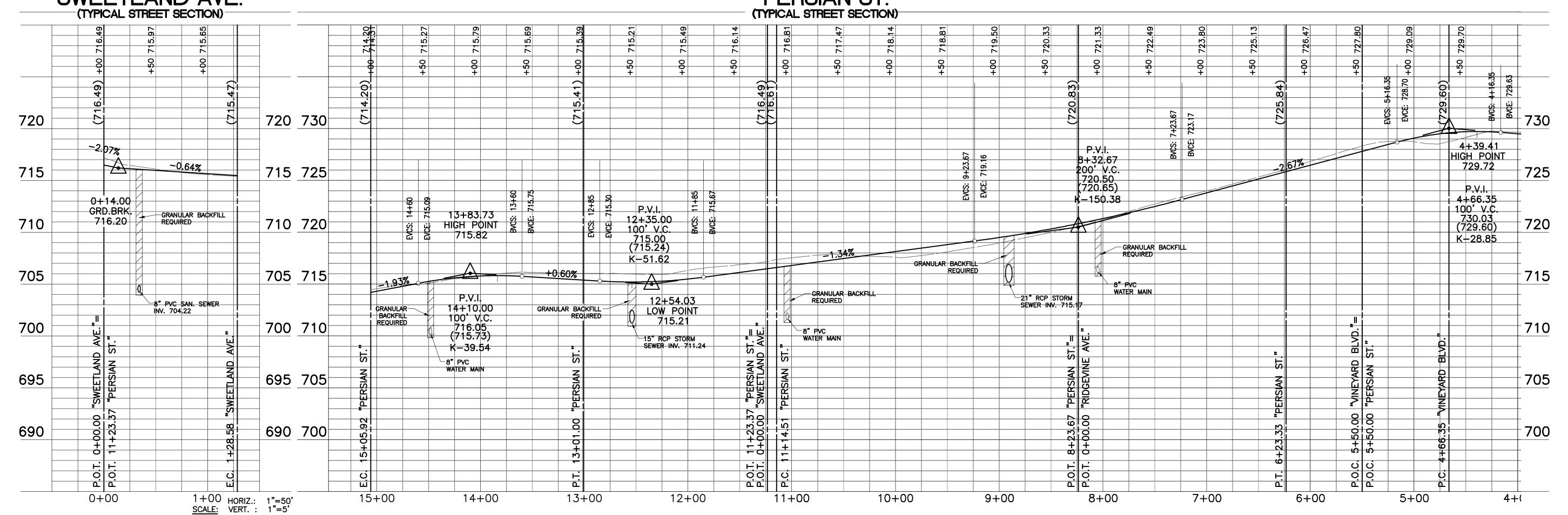
LEFERY K. SALLER STERES

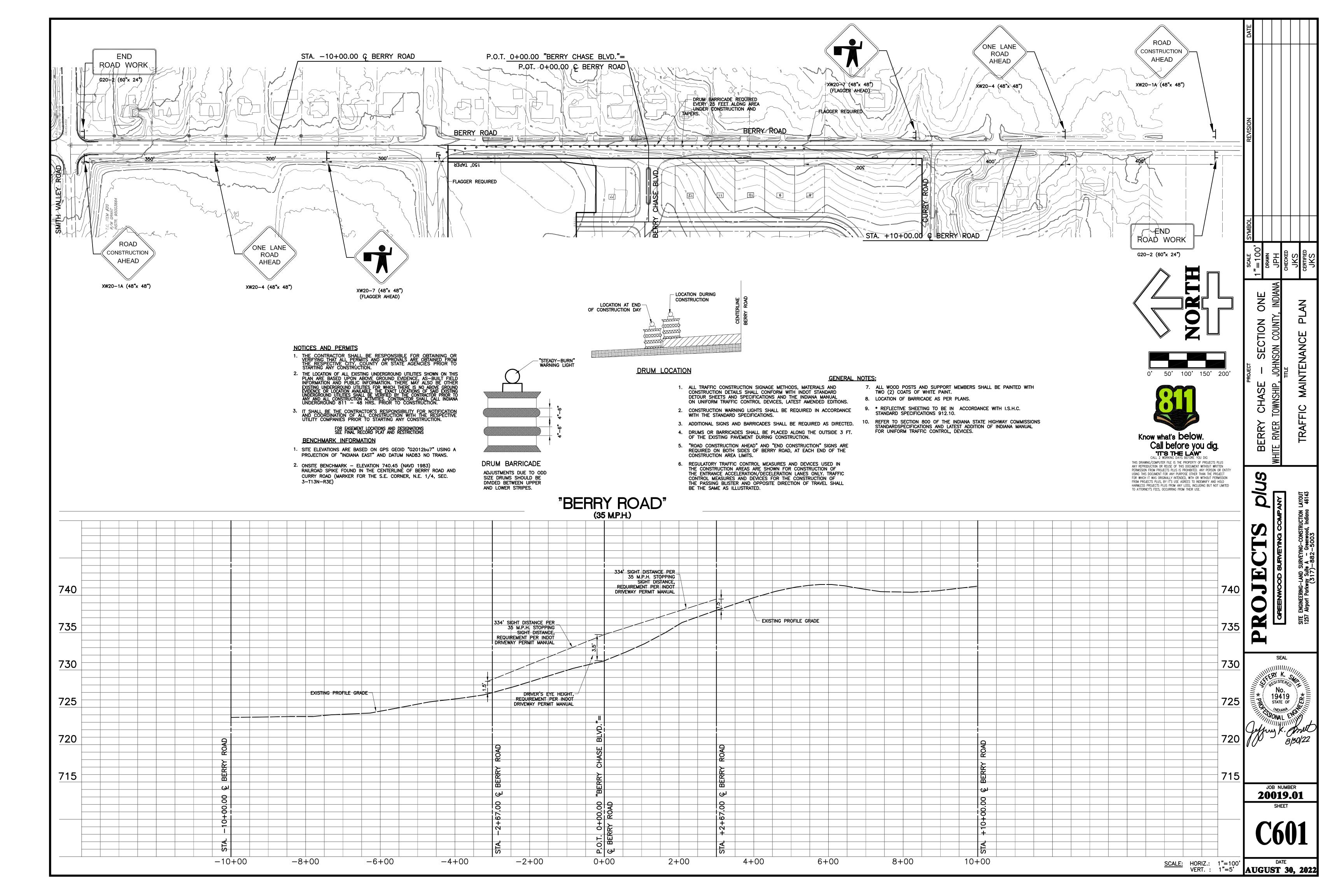
19419 STATE OF

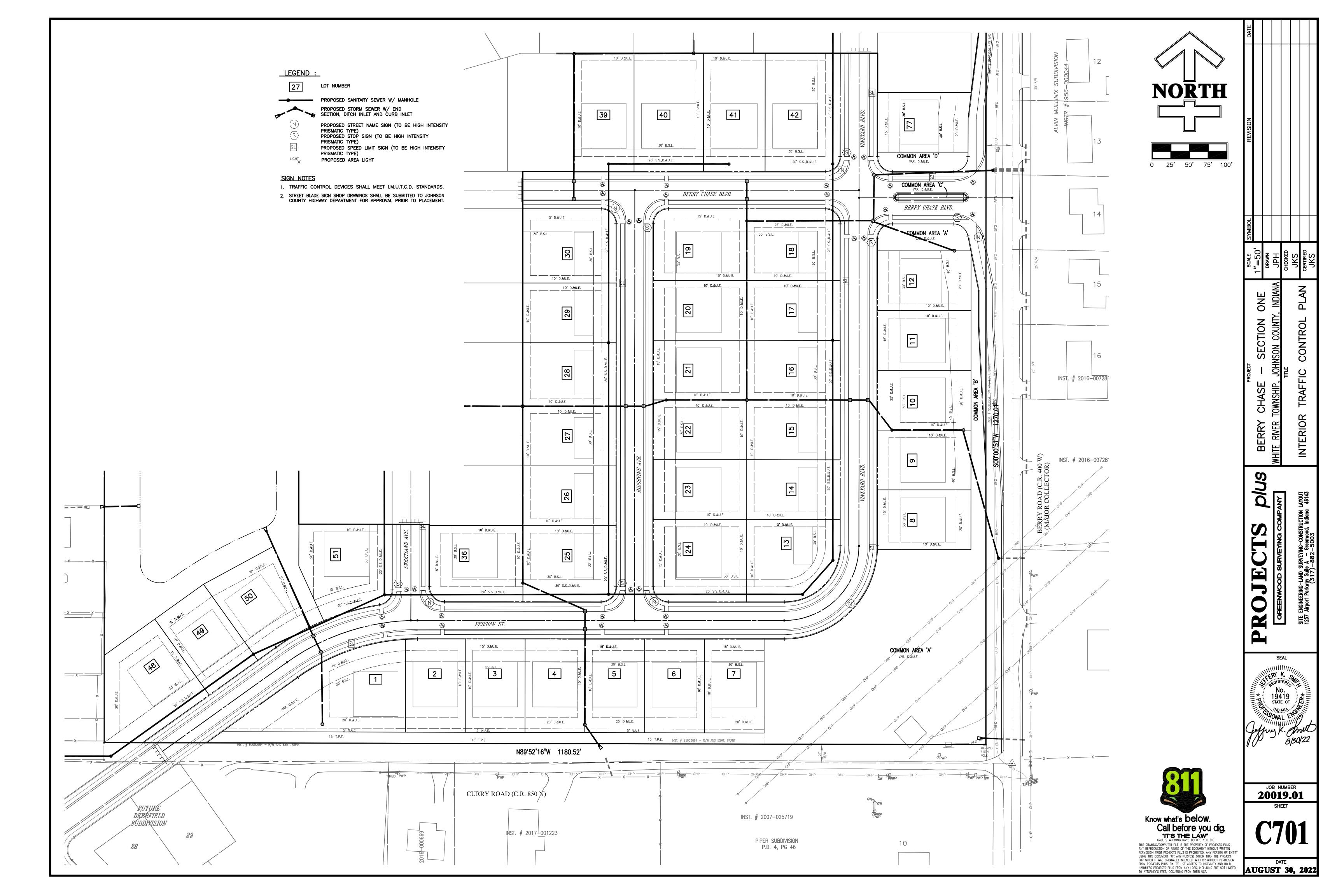
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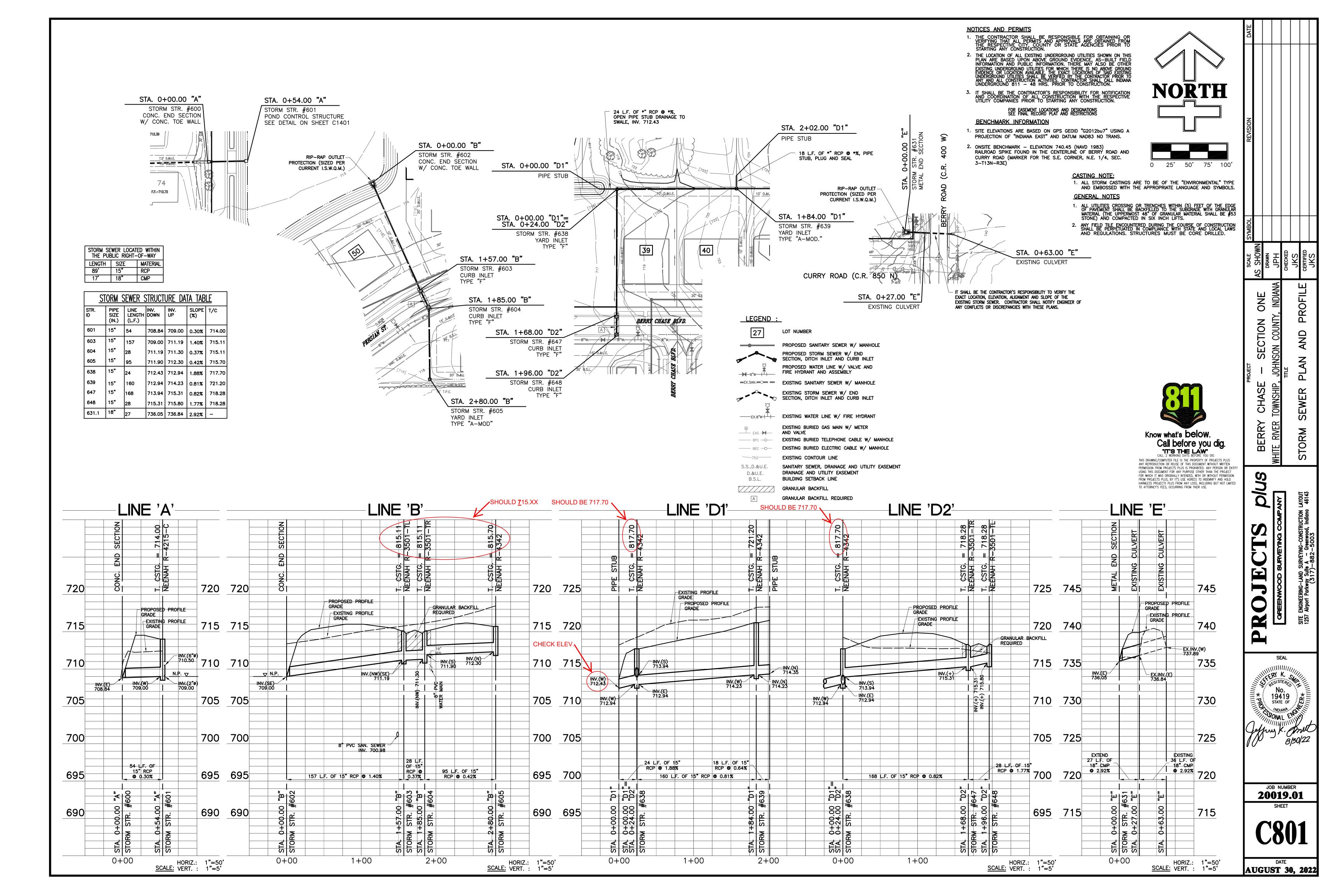
DATE **AUGUST 30, 2022**

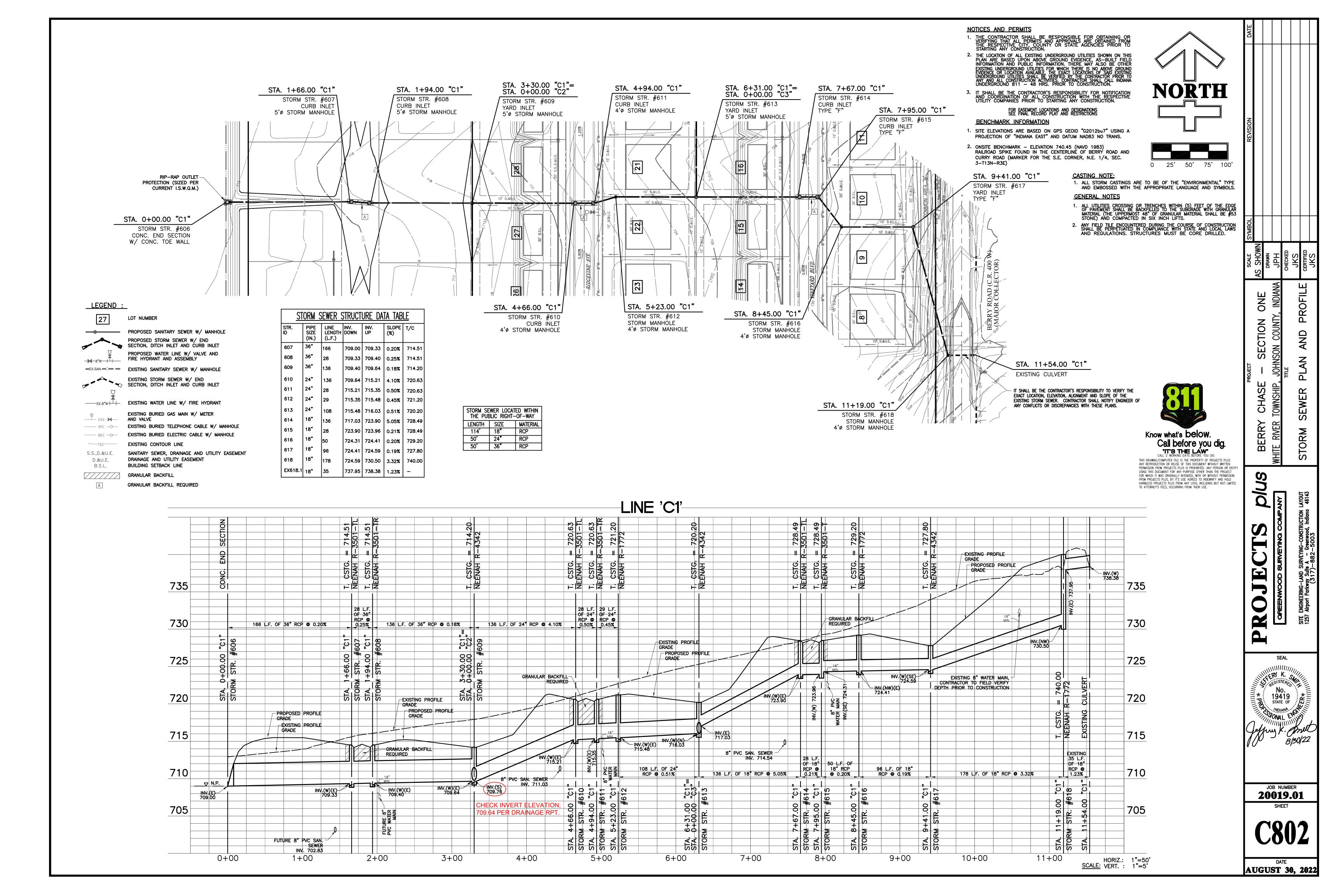
STATE OF WORLD

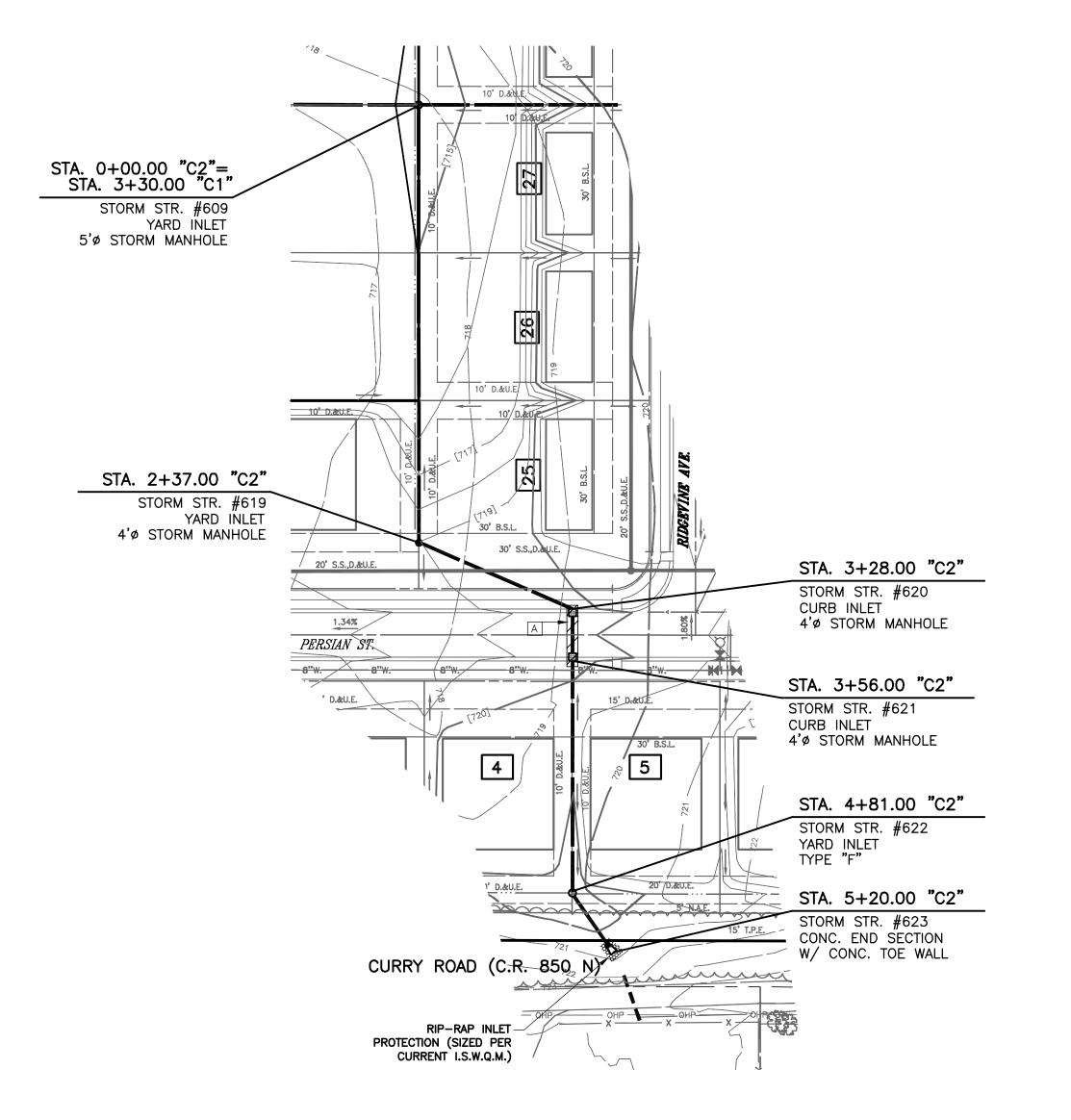


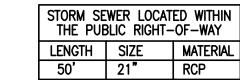












	STORM SEWER STRUCTURE DATA TABLE										
STR.		PIPE SIZE (IN.)	LINE LENGTH (L.F.)	INV. DOWN	INV. UP	SLOPE (%)	T/C				
619		21"	237	709.76	714.50	2.00%	719.0				
620		21"	91	714.50	715.10	0.66%	719.5				
621		21"	28	715.10	715.25	0.54%	719.5				
622		21"	125	715.25	715.70	0.36%	719.3				
623		18"	39	715.70	720.00	11.03%	-				

NOTICES AND PERMITS

FOR EASEMENT LOCATIONS AND DESIGNATIONS SEE FINAL RECORD PLAT AND RESTRICTIONS

BENCHMARK INFORMATION

1. SITE ELEVATIONS ARE BASED ON GPS GEOID "G2012bu7" USING A PROJECTION OF "INDIANA EAST" AND DATUM NAD83 NO TRANS.

2. ONSITE BENCHMARK — ELEVATION 740.45 (NAVD 1983)
RAILROAD SPIKE FOUND IN THE CENTERLINE OF BERRY ROAD AND CURRY ROAD (MARKER FOR THE S.E. CORNER, N.E. 1/4, SEC. 3-T13N-R3E)

EXISTING CONTOUR LINE

BUILDING SETBACK LINE

GRANULAR BACKFILL

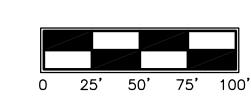
DRAINAGE AND UTILITY EASEMENT

GRANULAR BACKFILL REQUIRED

SANITARY SEWER, DRAINAGE AND UTILITY EASEMENT

S.S.,D.&U.E.

D.&U.E.



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CASTING NOTE:

1. ALL STORM CASTINGS ARE TO BE OF THE "ENVIRONMENTAL" TYPE AND EMBOSSED WITH THE APPROPRIATE LANGUAGE AND SYMBOLS. GENERAL NOTES

. ALL UTILITIES CROSSING OR TRENCHES WITHIN (5) FEET OF THE EDGE OF PAVEMENT SHALL BE BACKFILLED TO THE SUBGRADE WITH GRANULAR MATERIAL (THE UPPERMOST 48" OF GRANULAR MATERIAL SHALL BE #53 STONE) AND COMPACTED IN SIX INCH LIFTS.

ANY FIELD TILE ENCOUNTERED DURING THE COURSE OF CONSTRUCTION SHALL BE PERPETUATED IN COMPLIANCE WITH STATE AND LOCAL LAWS AND REGULATIONS. STRUCTURES MUST BE CORE DRILLED.

LEGEND : LOT NUMBER PROPOSED SANITARY SEWER W/ MANHOLE PROPOSED STORM SEWER W/ END SECTION, DITCH INLET AND CURB INLET PROPOSED WATER LINE W/ VALVE AND FIRE HYDRANT AND ASSEMBLY =EX.SAN.=O= EXISTING SANITARY SEWER W/ MANHOLE SECTION, DITCH INLET AND CURB INLET ----EX.8"W+++ EXISTING WATER LINE W/ FIRE HYDRANT EXISTING BURIED GAS MAIN W/ METER AND VALVE EXISTING BURIED TELEPHONE CABLE W/ MANHOLE Know what's below. EXISTING BURIED ELECTRIC CABLE W/ MANHOLE Call before you dig.

LINE 'C2' 725 -PROPOSED PROFILE GRADE -EXISTING PROFILE 720 720 EXISTING PROFILE PROPOSED PROFILE
GRADE - INV. (NW) 720.00 GRANULAR BACKFILL REQUIRED 715 INV.(S) 709.76 8" PVC SAN. SEWER NV. 708.14 705 OF 18" 91 L.F. OF 21" RCP @ 0.66% 700 237 L.F. OF 21" RCP @ 2.00% 125 L.F. OF 21" RCP @ 0.36% 0+00.00 "C2" 3+30.00 "C1" RM STR. #609 00 "C2" R. #620 00 "C2" R. #621 5+00 0+00 1+00 2+00 3+00 4+00

FULL-FLOW VELOCITY AS SHOWN IS 21.39 FPS 715 AND IS NOT ACCEPTABLE (10 FPS IS STANDARD MAXIMUM VELOCITY). THE MAXIMUM SLOPE TO ACHIEVE LESS THAN 10 FPS FOR AN 18" RPC IS 2.24%. PLACE AN INLET AT UPSTREAM END.



PROFIL

AND

S

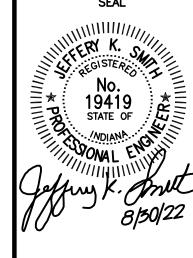
STORM

ONE

SECTION

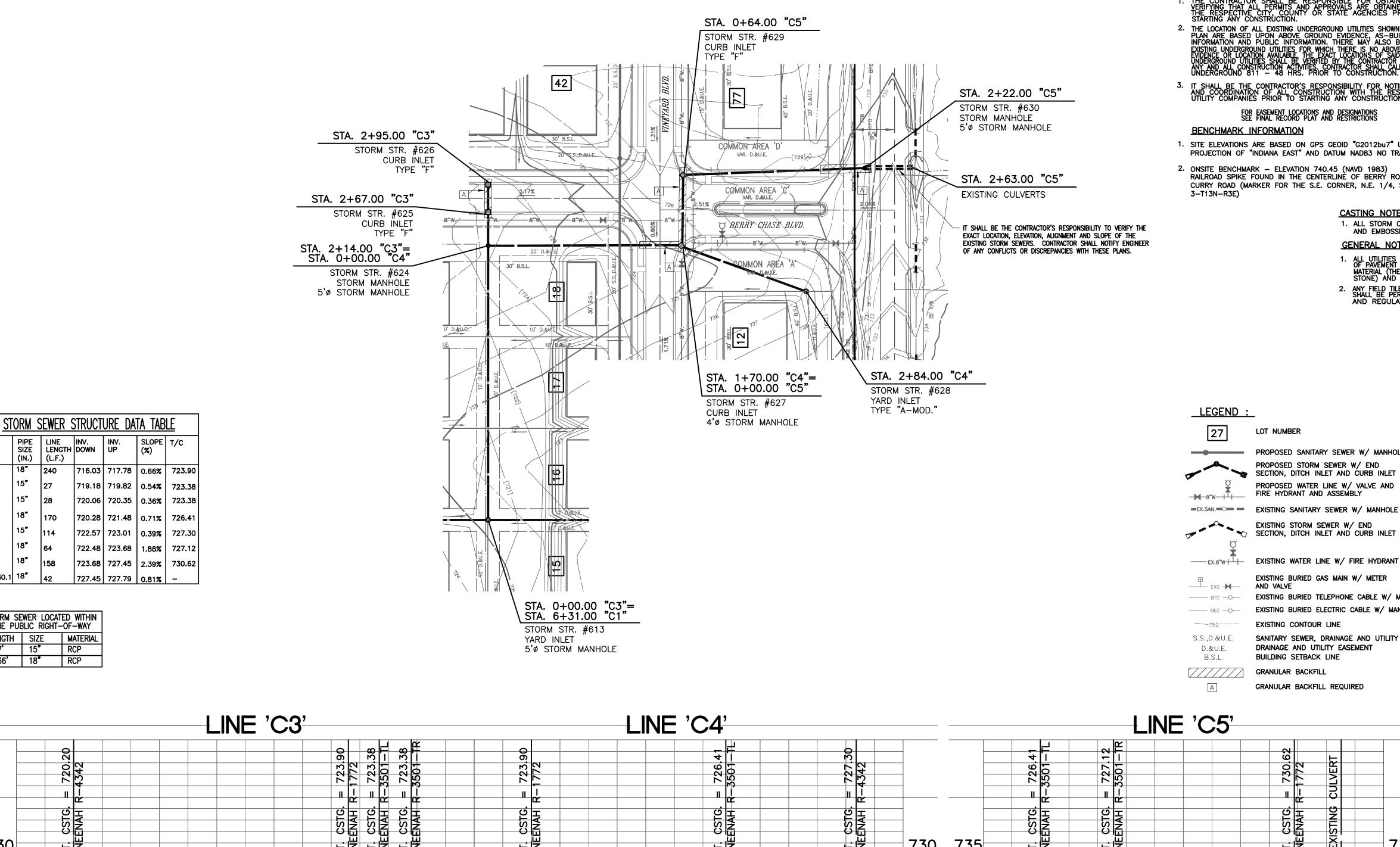
CHASE TOWNSHIP,

BERRY ITE RIVER



JOB NUMBER 20019.01

DATE AUGUST 30, 2022



PIPE SIZE

625

626

627

628

629

630

EX630.1 18"

(IN.) (L.F.)

STORM SEWER LOCATED WITHIN

THE PUBLIC RIGHT-OF-WAY

LENGTH | SIZE | MATERIAL

LINE INV. INV. LENGTH DOWN UP

NOTICES AND PERMITS

2. THE LOCATION OF ALL EXISTING UNDERGROUND UTILITIES SHOWN ON PLAN ARE BASED UPON ABOVE GROUND EVIDENCE, AS-BUILT INFORMATION AND PUBLIC INFORMATION. THERE MAY ALSO BE COMMON OF THE PROPERTY OF THE PROPERT

FOR EASEMENT LOCATIONS AND DESIGNATIONS SEE FINAL RECORD PLAT AND RESTRICTIONS

BENCHMARK INFORMATION

LOT NUMBER

PROPOSED SANITARY SEWER W/ MANHOLE

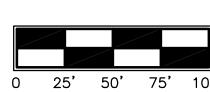
FIRE HYDRANT AND ASSEMBLY

EXISTING CONTOUR LINE

DRAINAGE AND UTILITY EASEMENT

1. SITE ELEVATIONS ARE BASED ON GPS GEOID "G2012bu7" USING A PROJECTION OF "INDIANA EAST" AND DATUM NAD83 NO TRANS.

2. ONSITE BENCHMARK - ELEVATION 740.45 (NAVD 1983)
RAILROAD SPIKE FOUND IN THE CENTERLINE OF BERRY ROAD AND CURRY ROAD (MARKER FOR THE S.E. CORNER, N.E. 1/4, SEC. 3-T13N-R3E)



CASTING NOTE:

1. ALL STORM CASTINGS ARE TO BE OF THE "ENVIRONMENTAL" TYPE AND EMBOSSED WITH THE APPROPRIATE LANGUAGE AND SYMBOLS. **GENERAL NOTES**

. ALL UTILITIES CROSSING OR TRENCHES WITHIN (5) FEET OF THE EDGE OF PAVEMENT SHALL BE BACKFILLED TO THE SUBGRADE WITH GRANULAR MATERIAL (THE UPPERMOST 48" OF GRANULAR MATERIAL SHALL BE #53 STONE) AND COMPACTED IN SIX INCH LIFTS.

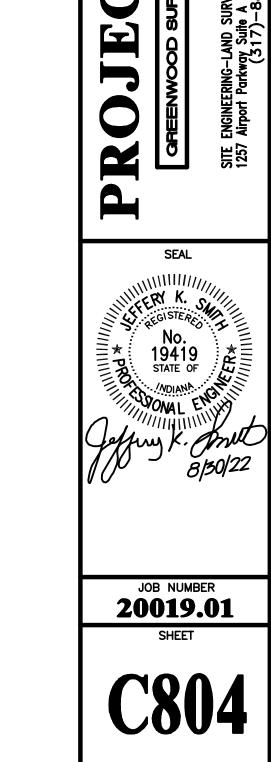
25' 50' 75' 100'

ANY FIELD TILE ENCOUNTERED DURING THE COURSE OF CONSTRUCTION SHALL BE PERPETUATED IN COMPLIANCE WITH STATE AND LOCAL LAWS AND REGULATIONS. STRUCTURES MUST BE CORE DRILLED.

PROPOSED STORM SEWER W/ END SECTION, DITCH INLET AND CURB INLET PROPOSED WATER LINE W/ VALVE AND SECTION, DITCH INLET AND CURB INLET EXISTING BURIED GAS MAIN W/ METER EXISTING BURIED TELEPHONE CABLE W/ MANHOLE Know what's below. EXISTING BURIED ELECTRIC CABLE W/ MANHOLE SANITARY SEWER, DRAINAGE AND UTILITY EASEMENT

Call before you dig. CALL 2 WORKING DAYS BEFORE YOU DIG THIS DRAWING/COMPUTER FILE IS THE PROPERTY OF PROJECTS PLUS ANY REPRODUCTION OR REUSE OF THIS DOCUMENT WITHOUT WRITTEN

KFILL	735
	730
- INV.(W 727.79	725
	720
	715
	710
	705
	1"=50 : 1"=5'



DATE AUGUST 30, 2022

PROFIL

AND

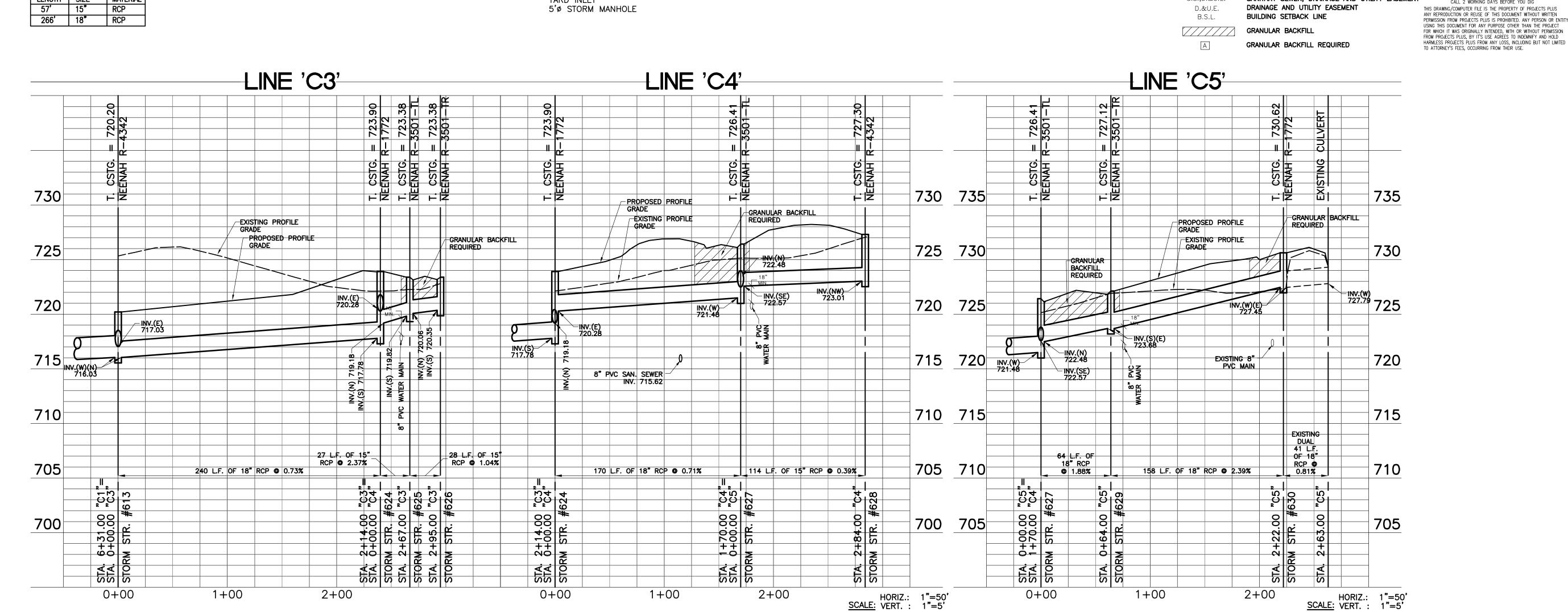
STORM

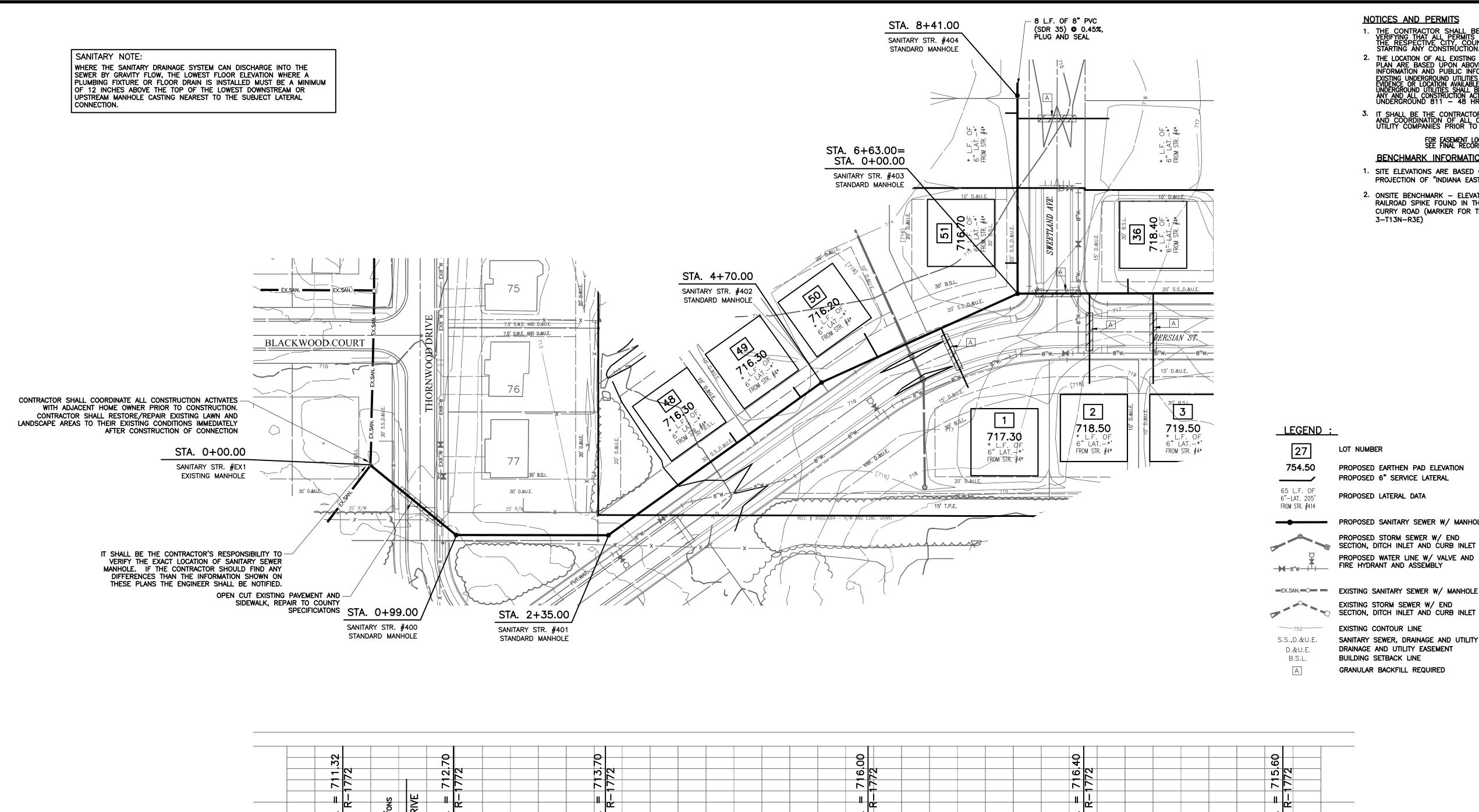
ONE

SECTION

CHASE

BERRY ITE RIVER





NOTICES AND PERMITS

LOT NUMBER

PROPOSED EARTHEN PAD ELEVATION

PROPOSED SANITARY SEWER W/ MANHOLE

PROPOSED STORM SEWER W/ END

FIRE HYDRANT AND ASSEMBLY

EXISTING STORM SEWER W/ END

DRAINAGE AND UTILITY EASEMENT

GRANULAR BACKFILL REQUIRED

EXISTING CONTOUR LINE

BUILDING SETBACK LINE

SECTION, DITCH INLET AND CURB INLET

SANITARY SEWER, DRAINAGE AND UTILITY EASEMENT

SECTION, DITCH INLET AND CURB INLET

PROPOSED WATER LINE W/ VALVE AND

PROPOSED 6" SERVICE LATERAL

PROPOSED LATERAL DATA

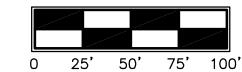
2. THE LOCATION OF ALL EXISTING UNDERGROUND UTILITIES SHOWN ON THIS PLAN ARE BASED UPON ABOVE GROUND EVIDENCE, AS—BUILT FIELD INFORMATION AND PUBLIC INFORMATION. THERE MAY ALSO BE OTHER

FOR EASEMENT LOCATIONS AND DESIGNATIONS SEE FINAL RECORD PLAT AND RESTRICTIONS

BENCHMARK INFORMATION

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RAILROAD SPIKE FOUND IN THE CENTERLINE OF BERRY ROAD AND CURRY ROAD (MARKER FOR THE S.E. CORNER, N.E. 1/4, SEC. 3-T13N-R3E)



GENERAL NOTES

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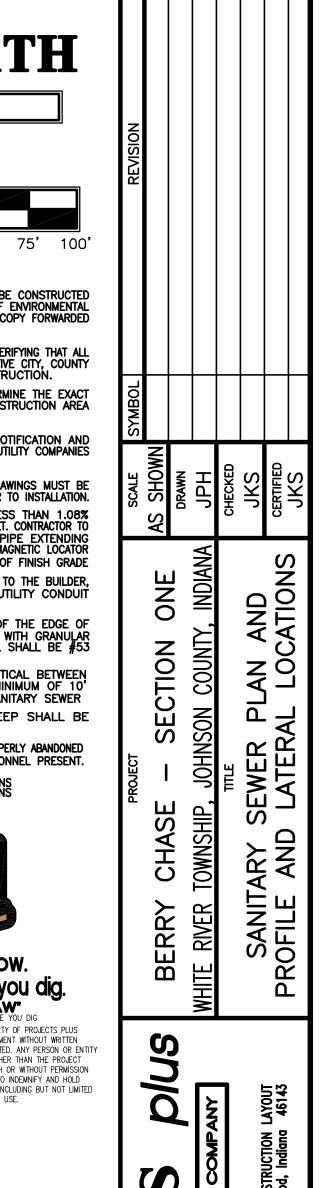
- 2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING OR VERIFYING THAT ALL PERMITS AND APPROVALS ARE OBTAINED FROM THE RESPECTIVE CITY, COUNTY OR STATE AGENCIES PRIOR TO STARTING ANY CONSTRUCTION.
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- 4. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY FOR NOTIFICATION AND COORDINATION OF ALL CONSTRUCTION WITH THE RESPECTIVE UTILITY COMPANIES PRIOR TO STARTING ANY CONSTRUCTION.
- 5. IF ALTERNATE STRUCTURES ARE TO BE SUPPLIED, SHOP DRAWINGS MUST BE SUBMITTED TO THE ENGINEER AND APPROVED IN WRITING PRIOR TO INSTALLATION.
- 6. SANITARY LATERALS SHALL BE LAID AT A GRADE NOT LESS THAN 1.08% TO A DEPTH AT THE PROPERTY LINE OF NOT LESS THAN 6.00 FEET. CONTRACTOR TO PROVIDE 100% WATER TIGHTNESS, AND A 2" DIA. PVC PIPE EXTENDING 4" ABOVE GRADE, ADDITIONAL 1/2" METAL LOCATOR ROD OR MAGNETIC LOCATOR TAPE SHALL BE INSTALLED AT THE END OF PIPE WITHIN 3' OF FINISH GRADE
- 7. IT IS THE CONTRACTOR'S RESPONSIBILITY TO MAKE AVAILABLE TO THE BUILDER, DIMENSIONS TO LOCATE SEWER STUBS AND/OR ANY UTILITY CONDUIT STUBS INSTALLED.
- 8. ALL UTILITY CROSSINGS OR TRENCHES WITHIN (5) FEET OF THE EDGE OF OF PAVEMENT SHALL BE BACKFILLED TO THE SUBGRADE WITH GRANULAR MATERIAL (THE UPPERMOST 48" OF GRANULAR MATERIAL SHALL BE #53 STONE) AND COMPACTED IN SIX INCH LIFTS.
- 9. CONTRACTOR SHALL MAINTAIN A MINIMUM OF 18" VERTICAL BETWEEN WATER MAINS, SANITARY & STORM SEWERS, ALSO A MINIMUM OF 10" HORIZONTAL SEPARATION BETWEEN WATER MAINS & SANITARY SEWER 10. ALL SANITARY PIPES GREATER THAN 15 FEET DEEP SHALL BE RATED AS HEAVY WALL S.D.R.-26.
- 11. EXISTING WELLS AND SEPTIC SYSTEMS ON THIS SITE MUCH BE PROPERLY ABANDONED WITH PLANNING AND ZONING OR HEALTH DEPARTMENT PERSONNEL PRESENT. FOR EASEMENT LOCATIONS AND DESIGNATIONS SEE FINAL RECORD PLAT AND RESTRICTIONS

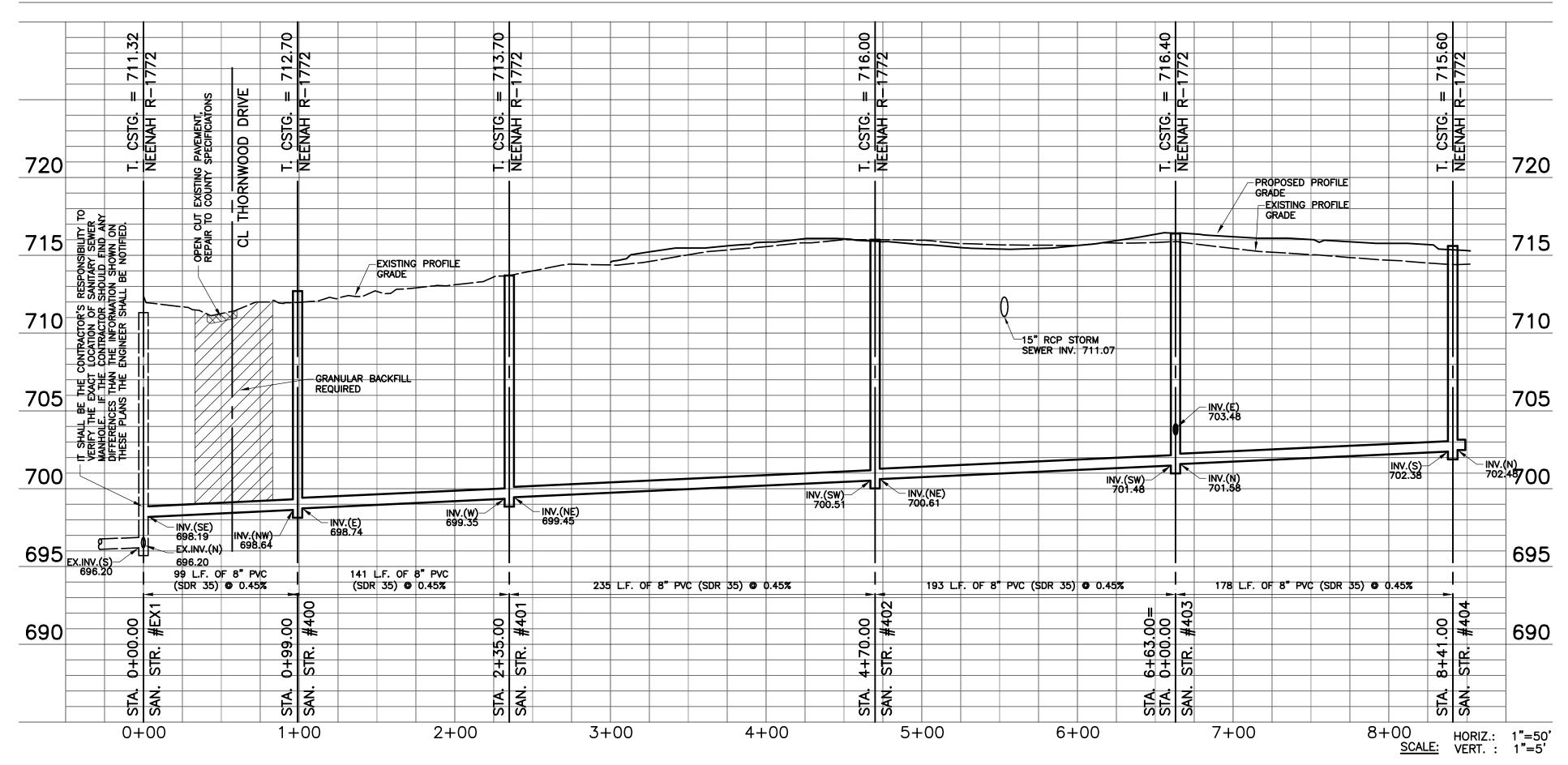


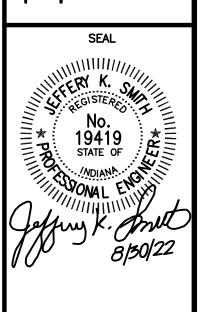
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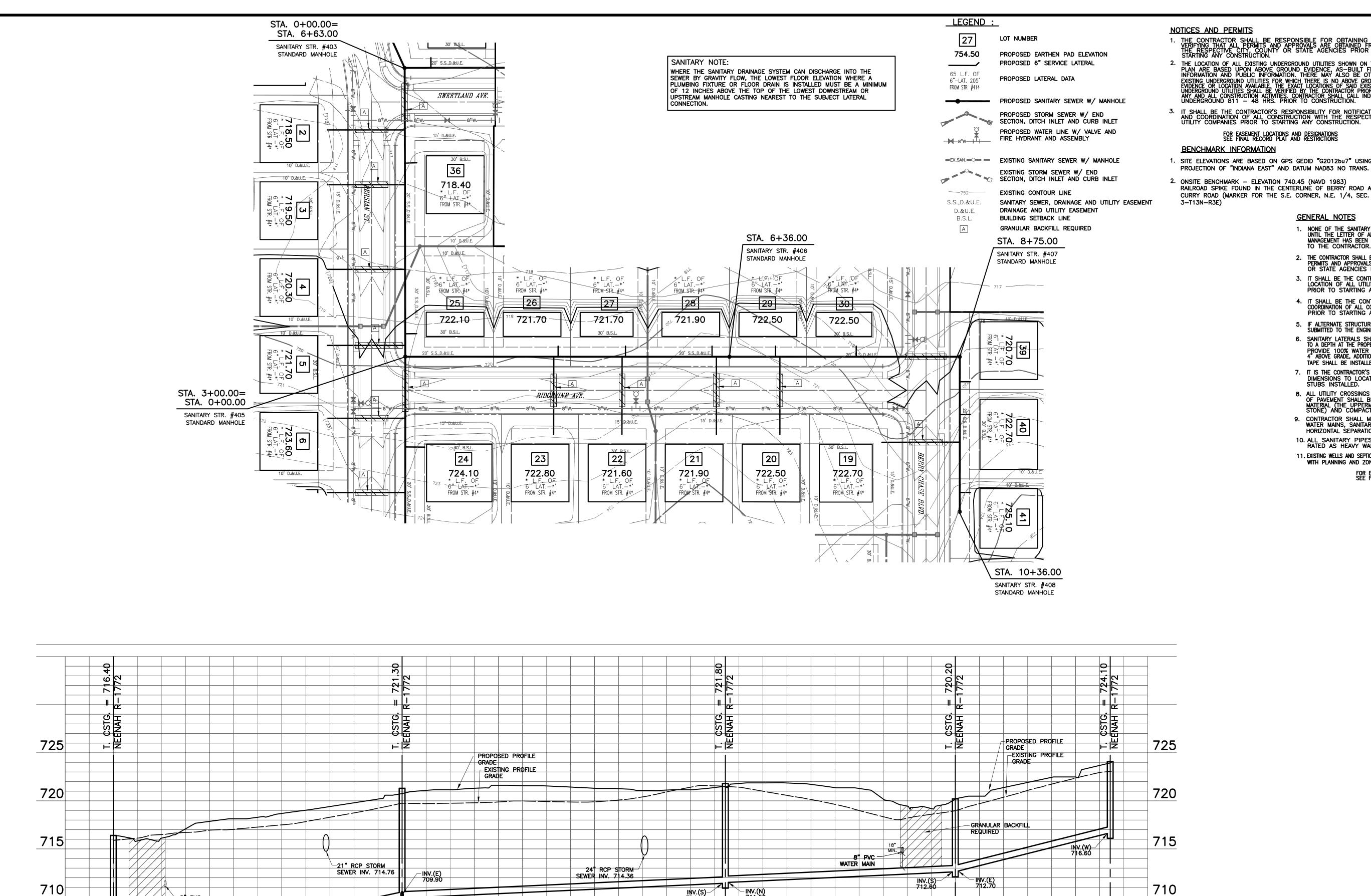






JOB NUMBER 20019.01

DATE **AUGUST 30, 2022**



WATER MAIN

1+00

300 L.F. OF 8" PVC (SDR 35) @ 2.11%

2+00

705

OOO

0+00

INV.(N) 709.90

.00= .00 #405

3+00. 0+00. STR.

3+00

336 L.F. OF 8 PVC (SDR 35) @ 0.45%

5+00

6+00

4+00

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BENCHMARK INFORMATION

705

695

·00 HORIZ.: 1"=50' <u>SCALE:</u> VERT. : 1"=5'

161 L.F. OF 8" PVC (SDR 35) @ 2.48%

10+00

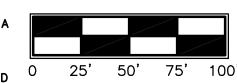
9+00

239 L.F. QF 8" PVC (SDR 35) @ 0.45%

8+00

7+00

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ONE

SECTION

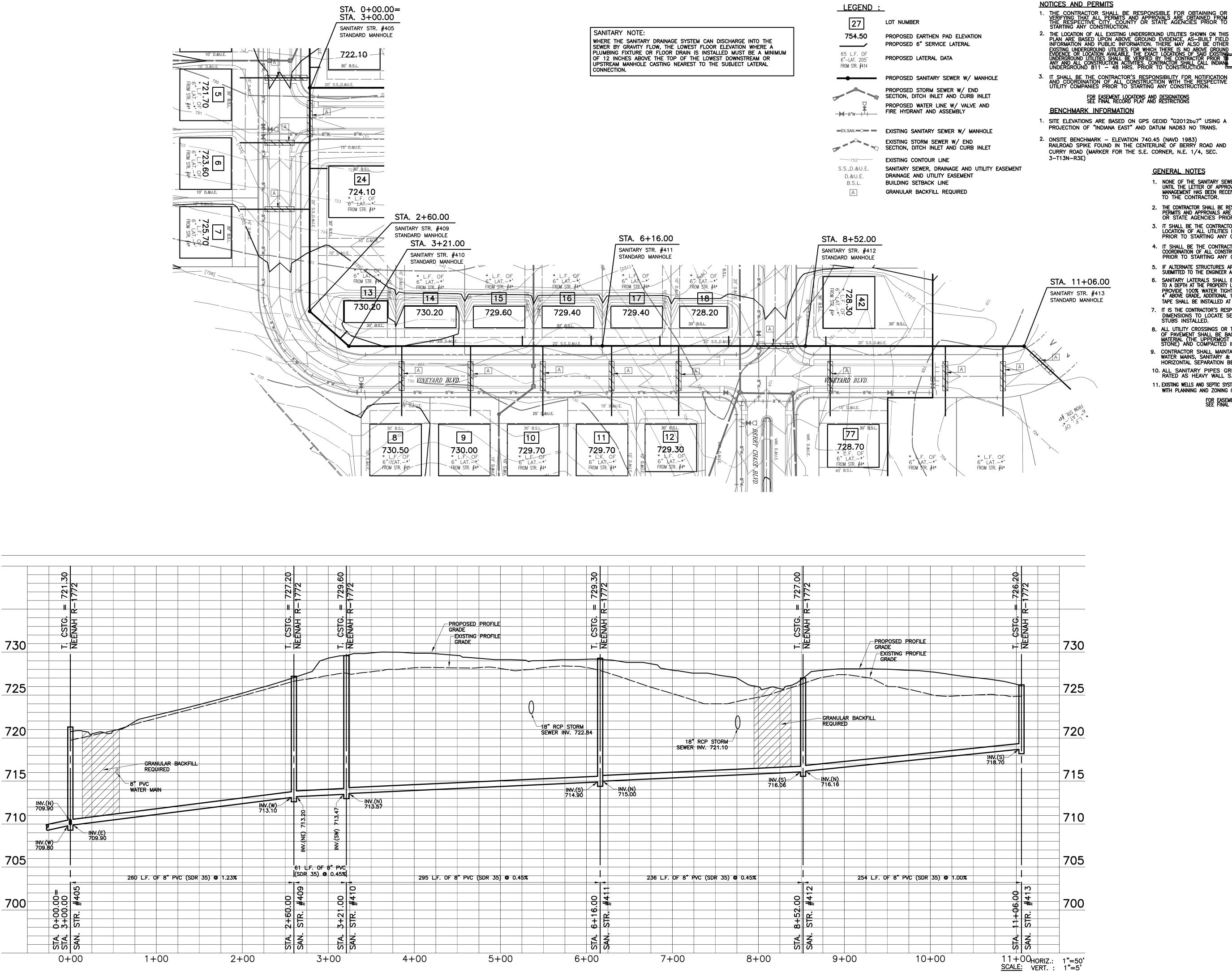
CHASE

BERRY

SE -

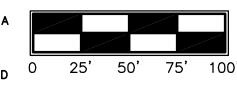


JOB NUMBER 20019.01



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ONE SECTION SE, CHA BERRY

SEAL LIFERY K. SALE 19419 STATE OF STATE OF STATE OF STATE OF

> JOB NUMBER 20019.01

DATE **AUGUST 30, 2022**

INDEX OF REQUIRED INFORMATION FOR CONSTRUCTION STORM WATER POLLUTION PREVENTION FOR BERRY CHASE — SECTION ONE

	EROSION CONTROL PLAN INDEX											
, E	ELEMENT	SHEET.	ELEMENT	SHEET.	ELEMENT	SHEET.	ELEMENT	SHEET.	ELEMENT	SHEET.		
7	A1	C1001	A12	C1201	A23	C1001	B1	C1001-C1005,C1202	B12	C1001-C1005,C1201		
-	A2	C101	A13	N/A	A24	C301-302	B2	C1001-C1005,C1202	B13	C1001		
- [7	A3	C1001	A14	N/A	A25	C1002-C1005	B3	C1001-C1005,C1202	B14	C1001		
[A4	C1001		C201-202	A26		B4	C1001-C1005,C1201	B15	C1001-C1005,C1202		
7	A5	C101	A16	C201-202	A27		B5	C1001-C1005,C1201				
	A6	ATTACHED	A17	N/A	A28		B6	C1001-C1005,C1202	C1	C1001-C1005		
- [A7	C201-202	A18	C301-302	A29	C1002-C1005	B7	C1001-C1005,C1202	C2	C1002		
- [/	A8	C1001	A19	C201-202	A30	N/A	B8	C1001-C1005,C1202	C3	C1002-C1005, C1201		
	A9	C1001	A20	N/A	A31	N/A	B9	N/A	C4	C1201		
	A10	C1001	A21	C401			B10	C1001-C1005,C1202	C5	C1002-C1005		
	A11	C1001	A22	C401			B11	C1001-C1005,C1202	C6	C1001		

A2. VICINITY MAP ON TITLE SHEET - SEE SHEET C101 A3. BERRY CHASE - SECTION ONE IS A PROPOSED RESIDENTIAL SUBDIVISION WITHIN WHITE RIVER TOWNSHIP, JOHNSON COUNTY, INDIANA. THE CONSTRUCTION IMPROVEMENTS SHALL CONSIST OF ASPHALT PAVEMENT AND CONCRETE CURBS, CONCRETE WALKS, STORM SEWERS, SANITARY SEWERS, WATER MAIN EXTENSION AND EARTHWORK FOR 40 RESIDENTIAL LOTS.

A4. LATITUDE: N 39°36'04" LONGITUDE: W 86°10'49" A5. LEGAL DESCRIPTION ON TITLE SHEET - SEE SHEET C101

LEGAL DESCRIPTION - NE 1/4 OF SEC. 3, T13N, R3E, SEE FULL LEGAL DESCRIPTION ON SHEET C101

A7. ANY 100 YEAR FLOODPLAINS, FLOODWAYS OF FLOODWAY FRINGES ARE PER FEMA FLOOD INSURANCE RATE MAP OF JOHNSON COUNTY, INDIANA, MAP #18081C0106E, DATED JANUARY 29, 2021, AND ARE SHOWN ON PLANS - SEE SHEET(S) C201-C202. A8. LAND USE OF ADJACENT PROPERTIES: NORTH: SCHOOL SOUTH: RESIDENTIAL

WEST: RESIDENTIAL EAST: RESIDENTIAL A9. TOTAL MAXIMUM DAILY LOAD POLLUTANT AREA: TURKEY PEN CREEK-HONEY CREEK, NO TMDL LISTED

A10. RECEIVING WATERS: TURKEY PEN CREEK-HONEY CREEK A11. IDENTIFICATION OF DISCHARGE TO A WATER ON CURRENT LIST OF IMPAIRED WATER AND POLLUTANTS: TURKEY PEN CREEK-HONEY CREEK,

ASSESSMENT UNIT ID: INW01E1_T1001, WATERBODY CONDITION: GOOD, 303(D) LISTED: NO, HUC: 05120201 A12. SOIL MAP LOCATED ON STORM SEWER POLLUTION PREVENTION PLAN- SEE SHEET C1201

A13. NO WETLANDS EXIST ON SITE A14. NO STATE OR FEDERAL WATER QUALITY PERMITS ARE REQUIRED FOR THIS PROJECT.

A15. EXISTING SITE IS AN AGRICULTURAL FIELD - SEE SHEET(S) C201-202

A16. EXISTING SITE TOPOGRAPHY SHOWN ON EXISTING SITE CONDITION PLAN(S) - SEE SHEET(S) C201-202 A17. EXISTING RUN-OFF FROM THE EAST IS PASSED THROUGH THE PROJECT SITE.

A18. PROPOSED RUN-OFF FROM ONSITE EXITS THE SITE VIA THE OUTLET PIPE FROM THE DETENTION POND WEST TO EXISTING STORM SEWER IN BRENTWOOD, AS SHOWN ON PROPOSED SITE CONDITION PLAN(S) — SEE SHEET(S) C301—302 A19. EXISTING SITE IMPROVEMENTS, INCLUDING ANY BUILDING(S), POND(S) AND OTHER EXISTING INFRASTRUCTURE IS SHOWN ON EXISTING SITE CONDITION PLAN(S) - SEE SHEET(S) C201-202

A20. NO EXISTING PERMANENT DETENTION FACILITIES ARE PRESENT A21. THE PROPOSED DETENTION POND IS THE ONLY POTENTIAL AREA WERE DISCHARGE WILL ENTER GROUNDWATER.

A22. TOTAL ACREAGE: 19.179 AC

A23. PROPOSED LAND DISTURBANCE: 33.23 AC A24. PROPOSED FINAL SITE TOPOGRAPHY SHOWN ON PROPOSED SITE CONDITION PLAN(S) - SEE SHEET(S) C301-302

A25. BOUNDARY OF DISTURBED AREA SHOWN ON PLANS - SEE SHEET(S) C1002-C1005

A26. LOCATION, SIZE AND DIMENSIONS OF STORM WATER SYSTEMS SHOWN ON STORM PLAN AND PROFILE SHEET(S) — SEE SHEET(S)

C801-C804 A27. STORM WATER WILL DISCHARGE FROM THE SITE INTO A PROPOSED DETENTION FACILITY, RELEASING TO THE WEST TO TURKEY PEN CREEK-

SEE SHEET(S) C1002-C1005 A28. LOTS AND IMPROVEMENTS SHOWN ON PROPOSED SITE CONDITION(S) - SEE SHEET(S) C301-302 A29. ALL NECESSARY SOIL STOCKPILE, BORROW AND DISPOSAL AREAS (IF SHOWN) ARE SHOWN ON STORM SEWER POLLUTION PREVENTION PLAN

- SEE SHEET(S) C1002-C1005. NO OFFSITE HAULING OR BORROW AREAS IS PROPOSED WITH THE CONSTRUCTION.

B1. POTENTIAL STORM WATER POLLUTANT SOURCES ASSOCIATED WITH CONSTRUCTION ACTIVITY INCLUDE GASOLINE, OIL AND OTHER FLUIDS FROM CONSTRUCTION EQUIPMENT, CONCRETE, ASPHALT AND SEDIMENT LADEN RUNOFF. CONTRACTOR SHALL ESTABLISH AN EMPLOYEE PARKING AREA AND VEHICLE MAINTENANCE AREA AS SHOWN ON THE PLAN(S). A PROPER CONCRETE WASHOUT AREA SHALL ALSO BE ESTABLISHED AS SHOWN ON THE PLAN(S), THIS WASHOUT PIT SHALL MEET REQUIREMENTS SET FORTH IN THE CURRENT I.S.W.Q.M. FOR DETAIL OF WASHOUT PIT SEE

B2. A CONSTRUCTION ENTRANCE LOCATION IS SHOWN ON STORM SEWER POLLUTION PREVENTION PLAN(S) - SEE SHEET(S) C1001-C1005, FOR SPECIFICATIONS AND DETAILS REGARDING THE ENTRANCE IS SHOWN STORM WATER POLLUTION PREVENTION DETAIL SHEET, SEE SHEET C1202 B3. SURFACE STABILIZATION METHODS SHOWN ON STORM WATER POLLUTION PREVENTION SHEET(S), SEE SHEET(S) C1001-C1005, FOR DETAIL, SEE GENERAL NOTE ON THE STORM WATER POLLUTION PREVENTION SHEET(S), CONTRACTOR SHALL INSTALL THE REQUIRED SEEDING, MULCH BLANKETS OR OTHER SURFACE STABILIZATION MEASURES SHOWN ON THE PLAN(S).

B4. SEDIMENT CONTROL MEASURES FOR CONCENTRATED FLOW SHOWN ON STORM SEWER POLLUTION PREVENTION PLAN(S) - SEE SHEET(S) C1001-C1005. DETAIL ON SHEET C1202. CONTRACTOR TO GRADE DIVERSIONARY DITCHES TO CHANNEL WATER AS CONSTRUCTION PROCÈEDS SO THAT SEDIMENT IS NOT ALLOWED TO FLOW UNFILTER. NORTH AMERICAN GREEN SC-150 SHALL BE UTILIZED. B5. SEDIMENT CONTROL MEASURES FOR SHEET FLOW SHOWN ON STORM SEWER POLLUTION PREVENTION PLAN(S) - SEE SHEET(S) C1001-C1005, DETAIL ON SHEET C1201. CONTRACTOR TO ENSURE ALL REQUIRED MEASURES OF FILTER FENCE ARE INSTALLED AND REQUIRED

VEGETATIVE FILTER STRIPS ARE MAINTAINED. B6. RUNOFF CONTROL MEASURES ARE SHOWN ON STORM SEWER POLLUTION PREVENTION PLAN(S), SEE SHEET(S) C1001-C1005, FOR DETAILS SHEET C1202. CONTRACTOR SHALL INSTALL ALL DIVERSIONS, TEMPORARY SLOPE DRAIN OR OTHER REQUIRED RUNOFF CONTROL MEASURES

B7. STORM WATER OUTLET PROTECTION MEASURES ARE SHOWN ON STORM SEWER POLLUTION PREVENTION PLAN(S), SEE SHEET(S) C1001-C1005, FOR DETAILS SHEET C1202. CONTRACTOR SHALL INSTALL ALL RIPRAP SLOPE PROTECTION OR OTHER REQUIRED RUNOFF CONTROL MEASURES SHOWN ON THE PLAN(S).

B8. NO GRADE STABILIZATION MEASURES IS NECESSARY

B9. NO DEWATERING MEASURES IS NECESSARY. B10. NO IN-STREAM ACTIVITIES IS NECESSARY

B11. INDIVIDUAL TEMPORARY STORM WATER QUALITY MEASURES INCLUDING FILTER FENCING, CONSTRUCTION ENTRANCE, SEEDING AND BLANKETS VEGETATIVE COVER WITH A UNIFORM DENSITY OF 70% IS REQUIRED BEFORE REMOVAL OF TEMPORARY EROSION CONTROL MEASURES. TEMPORARY STORM SEWER INLET PROTECTION MEASURES INCLUDING TEMPORARY BASKET INSERTS, FILTER INSERTS, FILTER SLEEVES/TUBES, WIRE BASKETS OR OTHER REQUIRED INLET PROTECTION MEASURES ARE SHOWN ON STORM SEWER POLLUTION PREVENTION PLAN(S), SEE SHEET(S) C1001-C1005, FOR DETAILS, SEE SHEET C1202.

PERMANENT SURFACE STABILIZATION METHODS INCLUDING THE REQUIRED SEEDING, MULCH BLANKETS OR OTHER SURFACE STABILIZATION MEASURES ARE SHOWN ON THE STORM WATER POLLUTION PREVENTION SHEET(S), SEE SHEET(S) C1001-C1005, FOR DETAIL SEE GENERAL NOTE ON THE STORM WATER POLLUTION PREVENTION SHEET(S).

AN EROSION CONTROL CONSTRUCTION SEQUENCE SCHEDULING, SHOWING THE IMPLEMENTATION RELATIVE TO LAND DISTURBING B12. A 3 PHASE STORM SEWER POLLUTION PREVENTION PLAN IS PROVIDED AND SHALL BE UTILIZED FOR INITIAL PRE-CONSTRUCTION, CONSTRUCTION PHASE AND PROJECT COMPLETION PHASES OF EROSION CONTROL PROTECTION. AN EROSION CONTROL CONSTRUCTION SEQUENCE SCHEDULE IS SHOWN ON SHEET C1201.

B13. EROSION CONTROL FOR INDIVIDUAL BUILDING LOTS CONSTRUCTION SEQUENCE AS FOLLOWS: 1. CONSTRUCT STONE DRIVEWAY.

2. LIMIT ALL DELIVERIES TO THE STONE DRIVEWAY.

3. PRESERVE AS MUCH OF THE EXISTING VEGETATION AS POSSIBLE. 4. LARGE EXPOSED AREAS ON OR NEAR SLOPES WILL REQUIRE A SILT FENCE.

5. AFTER CONSTRUCTION OF FOUNDATION, ROUGH GRADE AND SEED LOT. 6. AFTER BUILDING GUTTERS ARE INSTALLED, USE TEMPORARY EXTENSIONS TO LET

WATER PASS EXPOSED AREAS

7. AFTER FINAL GRADING, SEED OR SOD THE YARD AS SOON AS POSSIBLE
B14. MATERIAL HANDLING AND SPILL PREVENTION ASSOCIATED WITH CONSTRUCTION ACTIVITY SHALL MEET THE SPILL PREVENTION AND SPILL RESPONSE REQUIREMENTS IN 327 IAC 2-6.1. FULL EMERGENCY PLAN IS SHOWN ON STORM WATER POLLUTION PREVENTION DETAIL SHEET, SEE SHEET C1201. ALL MATERIALS SHALL BE HANDLED IN ACCORDANCE WITH GUIDELINES SET FORTH IN MATERIAL SAFETY DATA SHEET(S) PROVIDED BY MANUFACTURER

B15. MATERIAL HANDLING AND STORAGE PROCEDURES ASSOCIATED WITH WATER MATERIAL FROM CONSTRUCTION ACTIVITY, INCLUDING CONCRETE WASHOUT, DUMPSTER AND ANY OTHER REQUIRED ITEMS ARE SHOWN ON THE STORM WATER POLLUTION PREVENTION SHEET(S), SEE SHEET(S) C1001-C1005, FOR DETAILS, SEE SHEET C1202.

C1. EXPECTED POLLUTANTS ASSOCIATED WITH THE PROPOSED LAND USE INCLUDE FLUIDS FROM VEHICULAR TRAFFIC (I.E. OIL, GREASE, ANTIFREEZE, GASOLINE, ETC.), SAND AND GRIT FROM ROADWAY SURFACES AND SUBSTANCES ASSOCIATED WITH THE MAINTENANCE OF LAWNS AND GARDENS, THE ONLY OTHER REASONABLY FORESEEN POLLUTION FROM THIS SITE WILL BE MINIMAL AMOUNT OF LITTER AND TRASH FROM IMPROPER DISPOSAL.

C2. POST—CONSTRUCTION STORM WATER QUALITY WILL BE ACCOMPLISHED BY ROUTING A MAJORITY OF THE SITE RUNOFF THROUGH A SERIES OF STORM SEWERS INTO A PROPOSED EXTENDED STORAGE DETENTION FACILITY. THE WET DETENTION PONDS ACTS AS A PERMANENT STORMWATER CONTROL STRUCTURE PROVIDING BOTH DETENTION AND TREATMENT OF CONTAMINATED STORMWATER RUNOFF. THE POND CONSISTS OF A PERMANENT POOL OF WATER INTO WHICH STORM WATER RUNOFF IS DIRECTED. RUNOFF FROM EACH RAIN EVENT IS DETAINED AND TREATED IN THE POND UNTIL IT IS DISPLACED BY RUNOFF FROM THE NEXT STORM. THE POND'S NATURAL PHYSICAL, BIOLOGICAL, AND CHEMICAL PROCESSES THEN WORK TO REMOVE POLLUTANTS. SEDIMENTATION PROCESSES REMOVE PARTICULATES, ORGANIC MATTER, AND METALS, WHILE DISSOLVED METALS AND NUTRIENTS ARE REMOVED THROUGH BIOLOGICAL UPTAKE. FURTHER MAINTENANCE INCLUDES SWEEPING OF ALL PAVED SURFACES AS WELL AS COLLECTION OF ANY LITTER. ADDITIONAL VEGETATED STRIPS ARE PRESERVED IN AREAS OF CONCENTRATED RUNOFF RELEASE FOR ADDITIONAL STORM WATER QUALITY MEASURES.

C3. ALL WATER QUALITY BMP MEASURES (I.E. STORM WATER QUALITY STRUCTURES, SEDIMENT FOREBAYS, OUTLET STRUCTURES AND DETENTION POND BASINS) ARE SHOWN ON STORM WATER POLLUTION PREVENTION PLAN(S) - SEE SHEET(S) C1002-C1005. C10. AN EROSION CONTROL CONSTRUCTION SEQUENCE SCHEDULE IS SHOWN ON SHEET C1201.

C5. MAINTENANCE OF ALL STORM WATER POLLUTION PREVENTION MEASURES WILL BE THE RESPONSIBILITY OF THE PROJECT OWNER UTILIZING PROCEDURES OUTLINED ON THESE PLAN(S). ANY GRASSED OR VEGETATED AREAS THAT EXPERIENCE EROSION FROM RAINFALL EVENTS SHOULD BE REPAIRED AND REVEGETATED AS SOON AS POSSIBLE.

A. DETENTION PONDS BANK EROSION SHOULD BE ADDRESSED AS SOON AS IT BECOMES VISIBLE BY FILLING THE ERODED AREA WITH SUITABLE SOIL AND ESTABLISHING VEGETATION IMMEDIATELY, PREFERABLE BY SODDING. THE SAME MEASURE SHOULD BE USED FOR STEEP BANKS OR ANY BERMS OR SWALES. THE PONDS SHOULD ALSO BE MONITORED FOR SEDIMENT. IF THE BOTTOM OF THE POND RECEIVED SIGNIFICANT SEDIMENT (LESS THAN 2 FEET DEEP), THE SEDIMENT SHOULD BE REMOVED AND REPLACED ONSITE. AN ENGINEER SHOULD BE CONTACTED TO IDENTIFY THE SOURCE AND RECOMMEND REPAIRS.

B. POND OUTLET CONTROL STRUCTURE(S) AND OUTLET PIPES SHALL BE INSPECTED FREQUENTLY AND AFTER HEAVY RAIN EVENTS FOR ANY FAILURES. THE DOWNSTREAM OUTLET CÒNDITION INCLUDING EROSION SHALL ALSO BE INSPECTED. ANY AREAS OF EXCESS EROSION OR DEBRIS SHALL BE CORRECTED TO ORIGINAL DESIGN. INSPECTION SHALL INCLUDE INSPECTION OF ANY END SECTIONS, ORIFICES, CASTINGS AND STRUCTURES. THE INTEGRITY OF THE CONTROL STRUCTURE SHALL BE CHECKED TO ENSURE PROPER FUNCTIONALITY TO PREVENT ANY POTENTIAL DOWNSTREAM ISSUES. IF ANY ISSUES OCCUR AN ENGINEER SHOULD BE CONTACTED TO IDENTIFY THE SOURCE AND RECOMMEND REPAIRS. B. STORM SEWERS WATER QUALITY STRUCTURES SHALL BE INSPECTED ANNUALLY FOR ANY FAILURES. GROUND SEDIMENT THAT COLLECTS IN ANY STORM SEWER SHALL BE REMOVED; INSPECTIONS SHOULD BE PERFORMED MONTHLY AND MORE OFTEN IN AREAS WHERE THERE IS A HIGHER POTENTIAL FOR SEDIMENT TO ACCUMULATE. THIS EXCESS DEBRIS SHALL BE REMOVED. INLET CATCH BASINS (IE CURB AND YARD INLETS) SHOULD BE INSPECTED FOR SEDIMENT DEPTH. THE MAXIMUM DEPTH SHALL BE 1/4 OF THE PIPE DIAMETER, WITH A MAXIMUM OF 6". ANY DAMAGED, FAILING OR MISSING STORM SEWER CASTINGS OR STRUCTURES SHALL BE REPLACED.

C. SEDIMENT FOREBAYS SHALL BE INSPECTED ANNUALLY. MAINTENANCES INCLUDE DREDGING SEDIMENT OUT OF TREATMENT AREA, AND KEPT FREE OF LITTER, WOODY GROWTH, AND SIGNAGE. SEDIMENT THAT COLLECTS IN THE BMP SHALL BE REMOVED WHEN IT ADVERSELY AFFECTS THE ABILITY OF THE BMP TO PERFORM AS A WATER QUALITY CONTROL DEVICE. THIS WILL OCCUR AFTER 50% OF THE BMP STORAGE VOLUME IS FILLED WITH SEDIMENT. THE SEDIMENT THAT IS REMOVED FROM THE BMP SHOULD BE PLACED TO THE SIDE OF THE BMP FOR A SUITABLE DRYING OUT PERIOD, AND THEN REMOVED FROM THE SITE TO A SUITABLE DISPOSAL/LANDFILL FACILITY. IF POST CONSTRUCTION EROSION IS OCCURRING, THE SOURCE SHOULD BE RE-STABILIZED AS SOON AS POSSIBLE BY SEEDING, SODDING OR MULCHING.

M/I HOMES OF INDIANA, L.P. 8425 WOODFIELD CROSSING BLVD, SUITE 100W INDIANAPOLIS, IN 46240 MICHAEL REEVE - LAND DEVELOPMENT MANAGER (704) 363-4491 - MREEVE@MIHOMES.COM

C6. RESPONSIBLE FOR OPERATIONS AND MAINTENANCE:

STANDARD EROSION NOTES:

S.W.P.P.P. IS REQUIRED.

2) POST CONTRACTORS/PERMIT HOLDERS BOARD, I.D.E.M. N.O.I. AND S.W.P.P.P. MUST BE DISPLAYED. 3) SILT FENCE TO BE NUTEC 3-NWS 6 APPROVED EQUAL. 4) STATE/COUNTY OFFICIALS HAVE THE RIGHT TO REQUIRE ADDITIONAL EROSION CONTROL MEASURES IN THE FIELD AS SITE CONDITIONS WARRANT. 5) CONCRETE WASTE WATER MUST DISCHARGE INTO AN APPROVED ONSITE 6) POST CONSTRUCTION PAVEMENT INLET PROTECTION MUST BE INSTALLED PRIOR TO COMPLETION OF THE PROJECT. 7) IDEM GCP PERMIT REQUIRES ALL DISTURBED AREAS THAT WILL POTENTIALLY BE IDLE FOR 7 DAYS OR MORE TO BE STABILIZED (SEEDED, MULCHED, ETC.) 8) FOR EROSION CONTROL IMPLEMENTATION AND MAINTENANCE SCHEDULE SEE "EROSION CONTROL REQUIREMENTS" ON SHEET NO. C1201. 9) THE CITY ENGINEER/CITY OF FISHERS HAS THE RIGHT TO REQUIRE ADDITIONAL STORMWATER POLLUTION PREVENTION MEASURES IN THE FIELD AS 10) THERE SHALL BE NO DIRT, DEBRIS OR STORAGE OF MATERIALS IN THE 11) THIS SHEET TO BE USED FOR STORMWATER POLLUTION PREVENTION 12) ALL PORTABLE TOILETS MUST BE ANCHORED.

1) IF ANY EXPORT OF MATERIAL SHALL OCCUR, A MODIFICATION OF THE

3) CONTRACTOR SHALL INSTALL ALL PROPOSED ROAD STONE SUBBASE AS SOON AS THE STREETS ARE BROUGHT TO GRADE, OR ADDITIONAL GRADE 14) DURING RESIDENTIAL BUILDING LOT CONSTRUCTION ALL SILT FENCE, INLET PROTECTION, STREET SWEEPING, CONSTRUCTION ENTRANCE, AND CONCRETE WASHOUT REQUIREMENTS ARE TO BE MAINTAINED THROUGHOUT CONSTRUCTION

15) ALL EROSION CONTROL MEASURES INDICATED SHALL BE MAINTAINED BY THE CONTRACTOR AND OWNER, CONTACT PERSON: | MICHAEL REEVE -M/I HOMES OF INDIANA, L.I 8425 WOODFIELD CROSSING BLVD, SUITE 100W INDIANAPOLIS, IN 46240 (704) 363-4491 - MREEVE@MIHOMES.COM

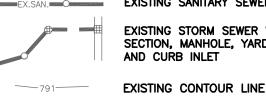
GENERAL NOTES:

BY THE DEVELOPER AND BUILDERS.

1. PROJECT SITE OWNER OR THEIR REPRESENTATIVE, KNOWLEDGEABLE IN EROSION AND SEDIMENT CONTROL, SHALL INSPECT THE SITE FOR STORM WATER POLLUTION PREVENTION DEFICIENCIES AT LEAST WEEKLY AND AGAIN WITHIN 24 HOURS OF EVERY 1/2 INCH RAIN EVENT. 2. ALL HAZARDOUS MATERIALS USED DURING THE CONSTRUCTION OF THIS SITE SHALL BE HANDLED AT ALL TIMES ACCORDING TO RECOMMENDATIONS IN THE MATERIAL SAFETY DATA SHEETS PROVIDED BY THE MANUFACTURER. SITE CONTRACTOR TO IMPLEMENT A SPILL PREVENTION PLAN PRIOR TO START OF CONSTRUCTION.

3. ALL EROSION CONTROL PRACTICES SHALL BE IN ACCORDANCE WITH THE IDEM "STORMWATER QUALITY MANUAL" AND THE SCS "FIELD OFFICE TECHNICAL GUIDE"

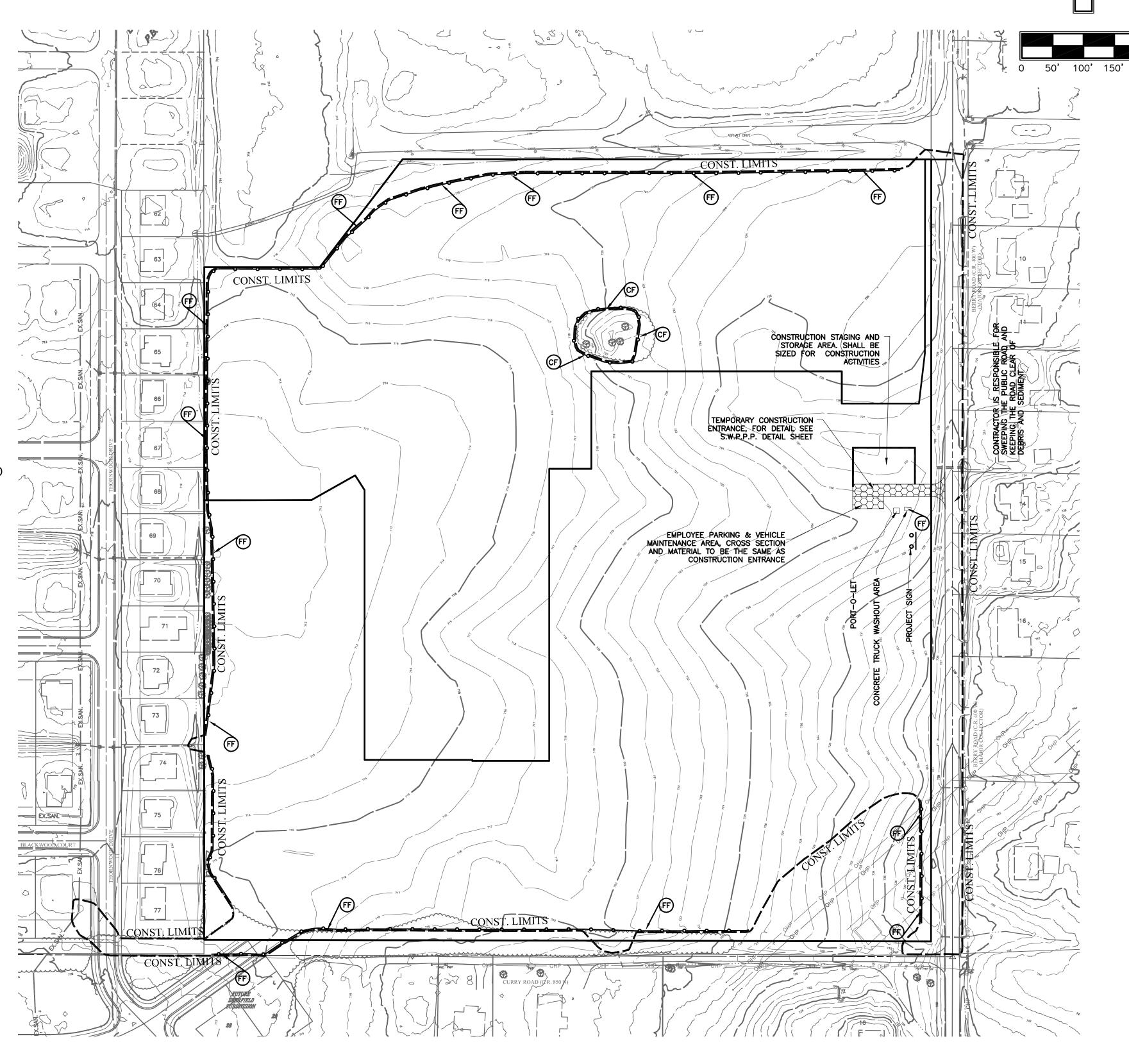
AND CURB INLET



EXISTING SANITARY SEWER W/ MANHOLE EXISTING STORM SEWER W/ END SECTION, MANHOLE, YARD INLET,

(NUTEC 3 NWS-6 OR APPROVED EQUAL)

CONSTRUCTION FENCING (ORANGE HIGH VISIBILITY)





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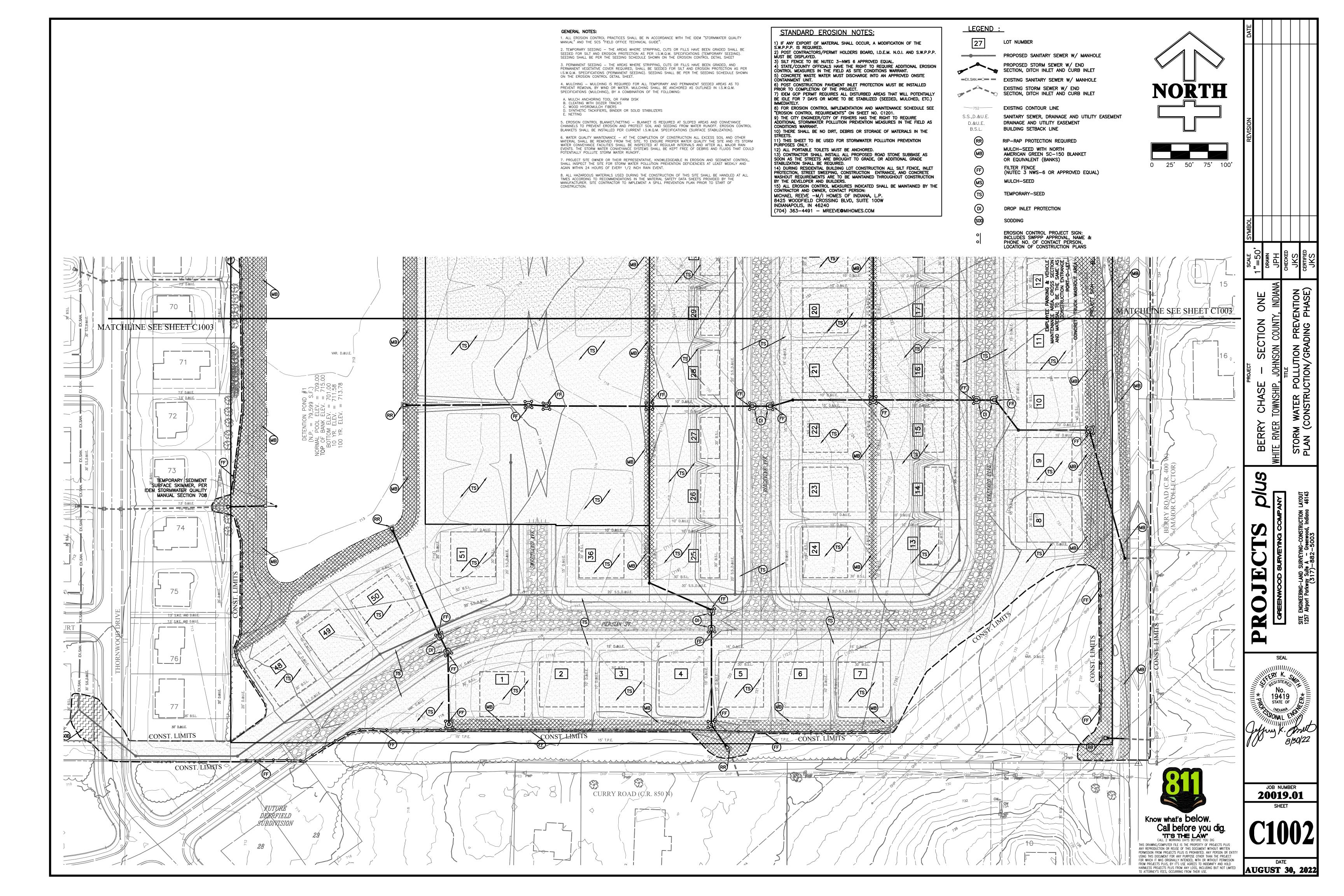
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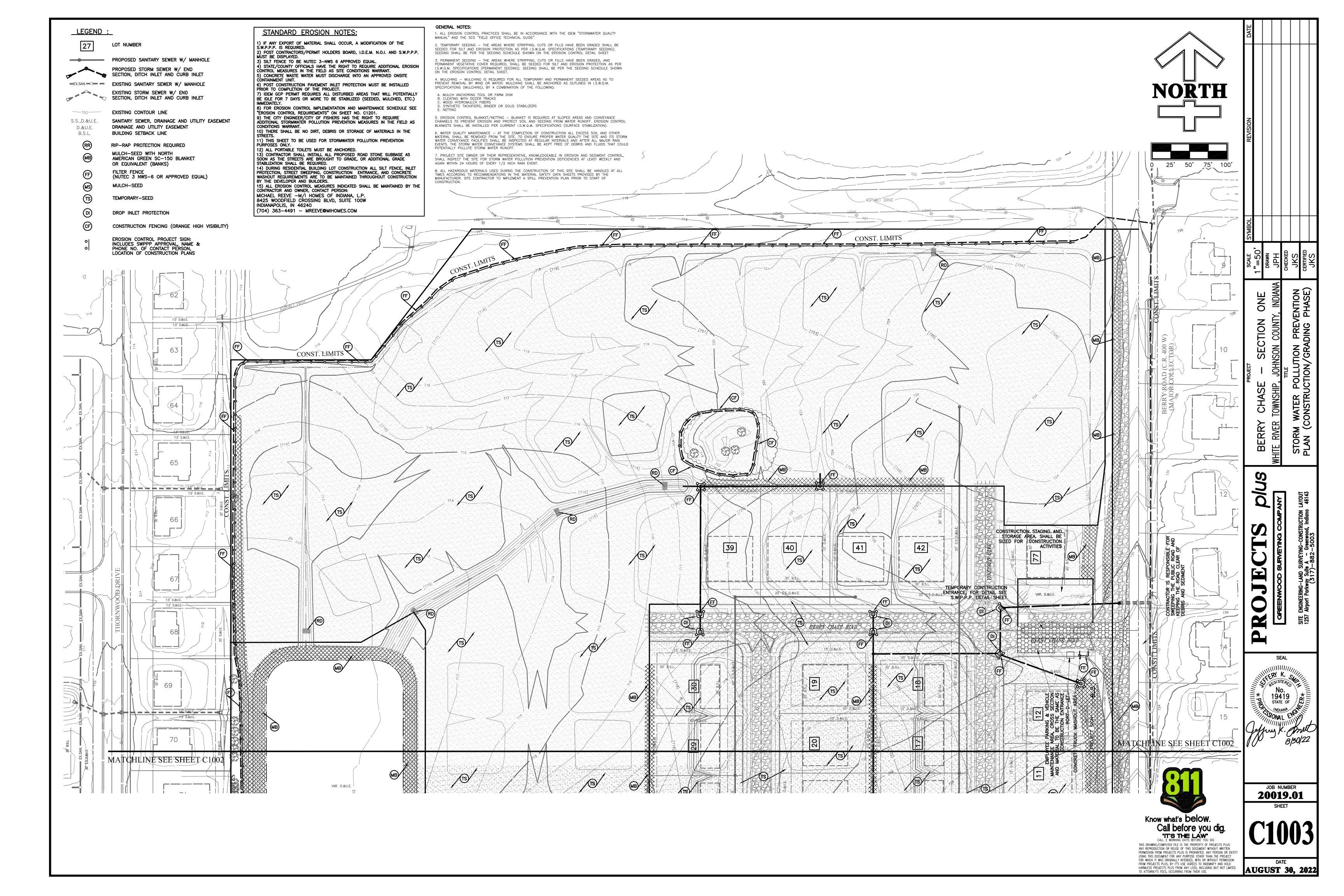
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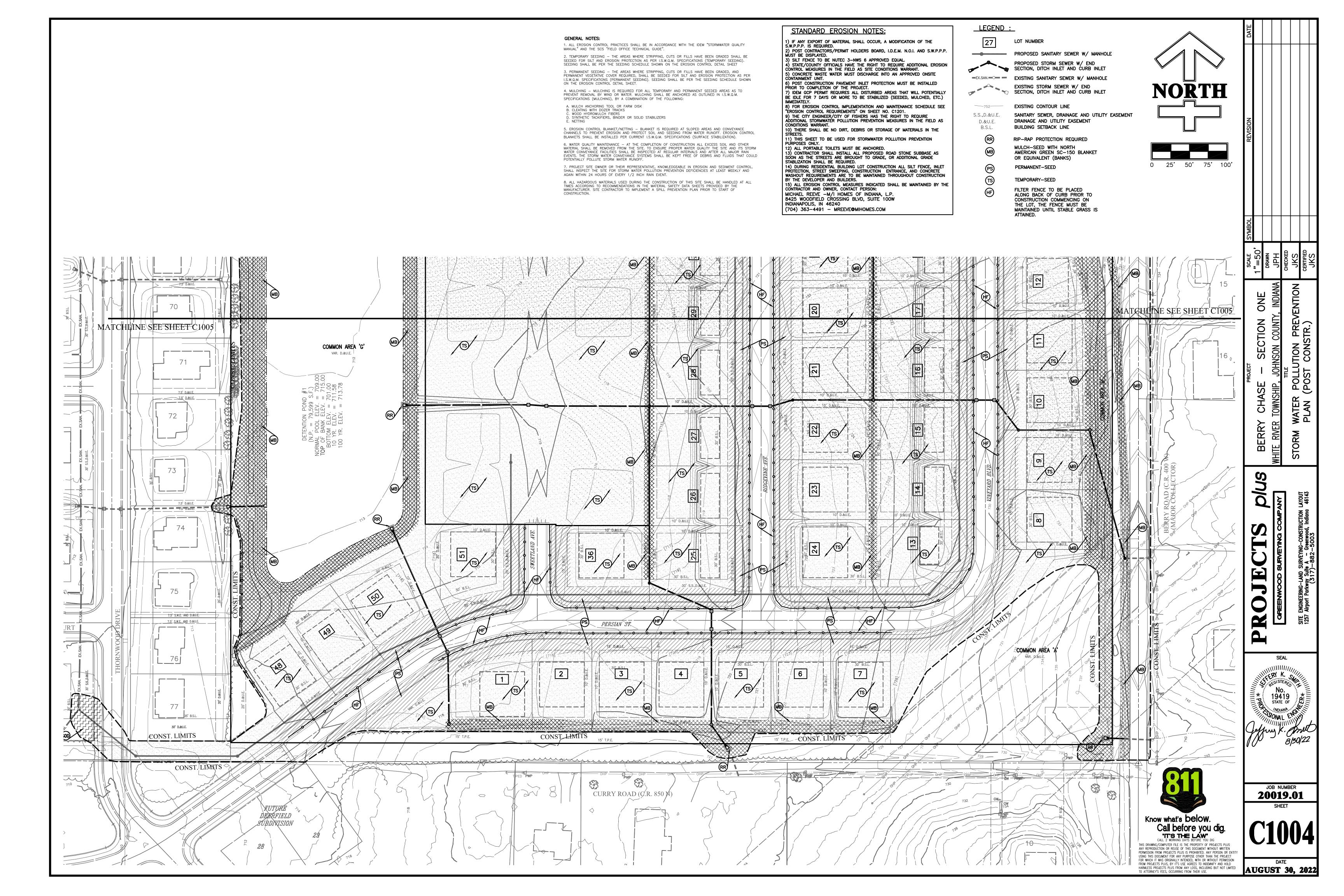
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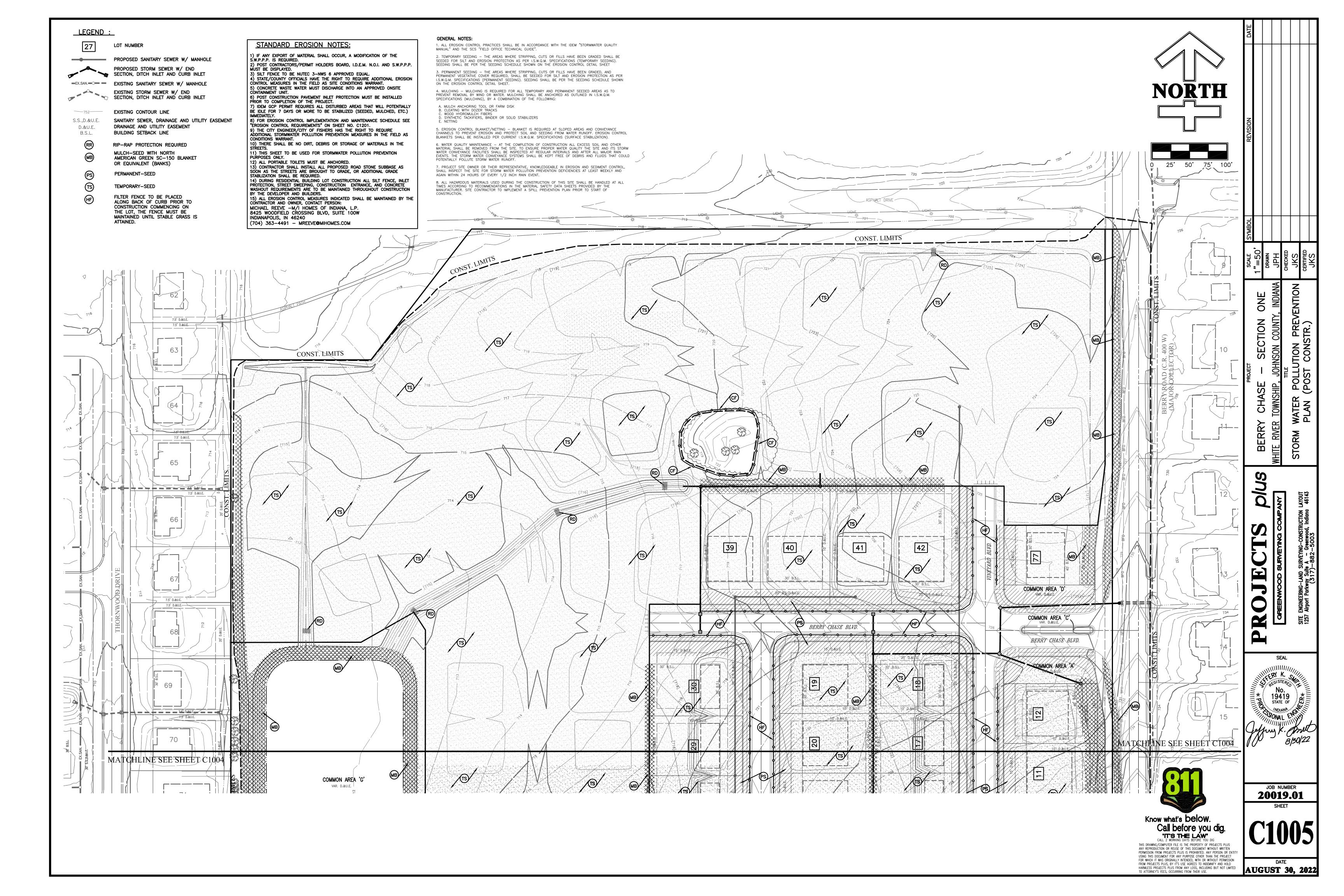
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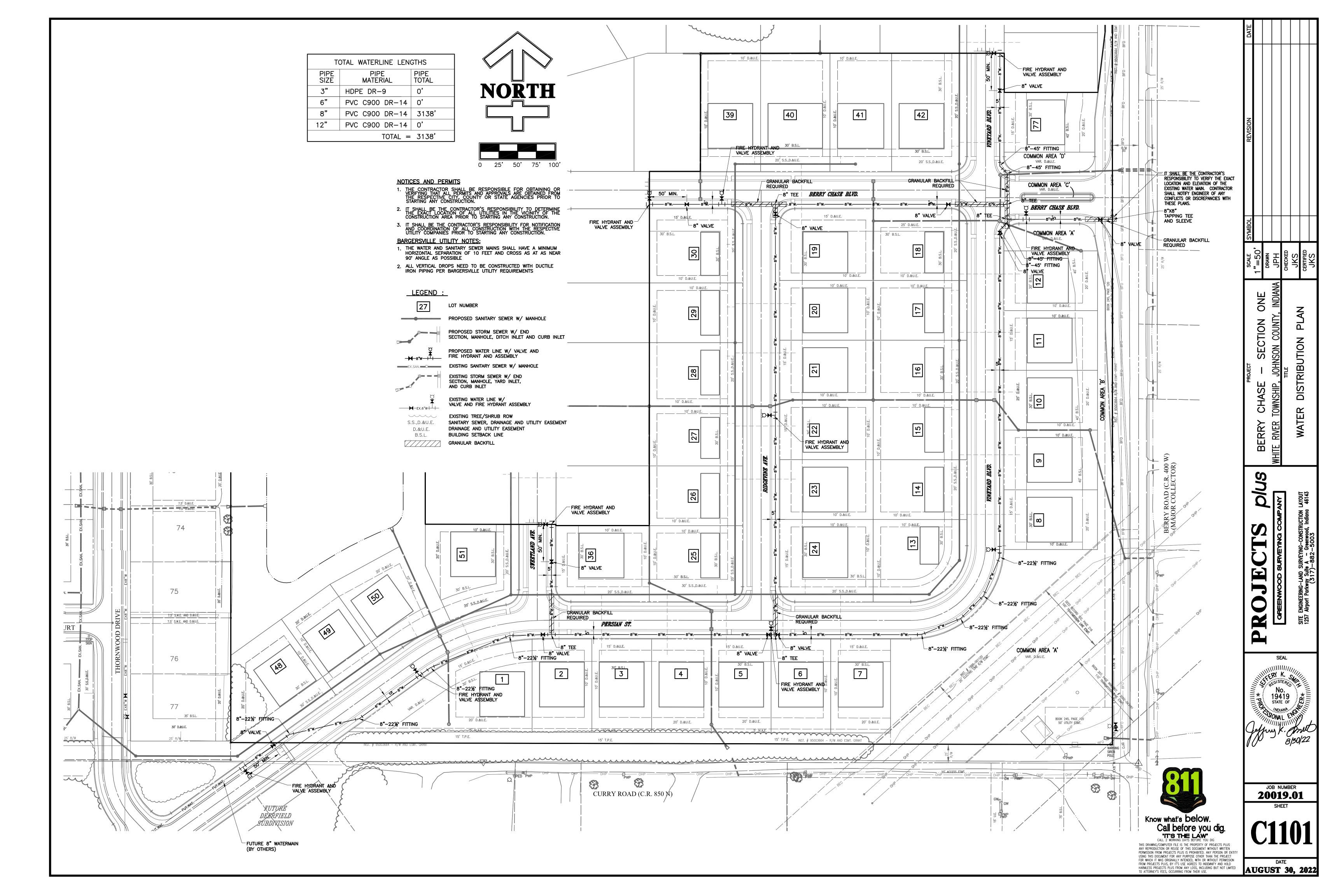
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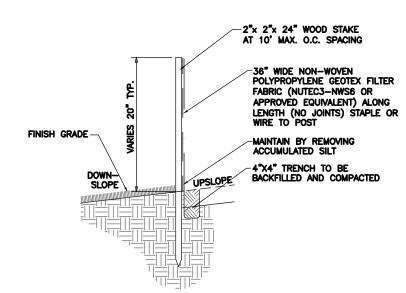












INSPECT ONCE PER WEEK OR AFTER EACH RAIN EVENT.
 IF FENCE FABRIC TEARS, STARTS TO DECOMPOSE, OR IN ANY WAY BECOMES INEFFECTIVE, REPLACE THE AFFECT PORTION IMMEDIATELY.
 REMOVE DEPOSITED SEDIMENT WHEN IT REACHES HALF THE HEIGHT OF THE FENCE AT ITS LOWEST POINT OR IS CAUSING THE FABRIC TO BULGE.
 TAKE CARE TO AVOID UNDERMINING THE FENCE DURING CLEAN OUT.
 AFTER THE CONTRIBUTING DRAINAGE AREA HAS BEEN STABILIZED, REMOVE THE FENCE AND SEDIMENT DEPOSITS BRING THE DISTURBED AREA TO GRADE, AND

FILTER FENCE INSTALLATION DETAIL

<u>SECTION 2 — MATERIAL HANDLING AND SPILL PREVENTION PLAN</u> MATERIAL HANDLING AND SPILL PREVENTION PLAN:

IN ORDER TO MINIMIZE THE RELEASE OF POTENTIAL POLLUTANTS DURING CONSTRUCTION THE CONTRACTORS SHALL IMPLEMENT THIS MATERIAL HANDLING AND SPILL PREVENTION PLAN. THE CONTRACTOR SHALL REVIEW THIS PLAN WITH ALL SUBCONTRACTORS AND REQUIRE THAT THEY IMPLEMENT THE PLAN AS WELL.

1. CONSTRUCTION EQUIPMENT A. FUELING, LUBRICATION AND FLUIDS: ALL OPERATIONS INVOLVING THE ADDITION OF FLUIDS TO EQUIPMENT SHOULD BE DONE IN ONE LOCATION, AS DESIGNATED BY THE GENERAL CONTRACTOR, OR DEVELOPER/OWNER, SO THAT SPILLS ARE LIMITED TO ONE LOCATION ON THE SITE, WHICH WILL FACILITATE THE CLEANUP OF SPILLS. IF AN ONSITE-FUELING TANK IS PLANNED TO BE ON SITE, IT SHALL BE DOUBLE WALLED AND STORED IN THIS DESIGNED AREA. THIS LOCATION IS AN AREA THAT WILL NOT ALLOW SPILLED FLUIDS TO MIGRATE INTO SUBSURFACE SOILS. IN THE EVENT OF A SPILL, THE FLUID SHALL IMMEDIATELY BE CLEANED UP BY REMOVING THE CONTAMINATED SOIL OR STONE, WHICH SHALL BE DISPOSED OF IN AN ACCEPTABLE MANNER. SPILLS ON HARD SURFACES SHALL BE SOAKED UP BY AN ACCEPTABLE MATERIAL SUCH AS OIL DRY AND THE ABSORBENT MATERIAL DISPOSED OF IN A PROPER MANNER. THE SPILL SHALL ALSO BE REPORTED IMMEDIATELY TO THE CONTRACTOR'S SUPERINTENDENT. B. EQUIPMENT REPAIR, ESPECIALLY WHEN FLUIDS MUST BE REMOVED FROM THE EQUIPMENT OR THE POSSIBILITY OF FLUID SPILLS IS HIGH, SHOULD ALWAYS BE DONE OFFSITE AT A FACILITY THAT IS MORE SUITABLE THAN A CONSTRUCTION SITE TO HANDLE SPILLS. WHEN EQUIPMENT MUST BE REPAIRED ONSITE IT SHOULD BE MOVED TO THE MAINTENANCE AND FUELING AREA IF POSSIBLE. OTHERWISE, SUITABLE ON SITE CONTAINERS SHOULD BE PLACED UNDER THE EQUIPMENT DURING REPAIR TO CATCH ANY SPILLED FLUIDS AND THESE FLUIDS SHOULD BE DISPOSED OF IN A PROPER MANNER.

C. ALL REUSABLE FLUID CONTAINERS, SUCH AS GASOLINE CANS, SHALL BE INSPECTED FOR LEAKS EACH TIME THEY ARE USED. IF LEAKS ARE FOUND, THE FLUID SHALL BE REMOVED FROM THE CONTAINER IN A PROPER MANNER AND THE CONTAINER DISPOSED OF IN AN ACCEPTABLE MANNER. EMPTY DISPOSABLE CONTAINER, SUCH AS GREASE TUBES AND LUBRICATING OIL AND BRAKE FLUID CONTAINERS, AND THEIR PACKAGING, SHALL BE DISPOSED OF IN A PROPER MANNER AND SHALL NOT BE LEFT ON THE GROUND OR IN THE OPEN ON THE CONSTRUCTION

2. CONSTRUCTION MATERIALS AND THEIR PACKAGING
A. EROSION CONTROL MEASURE SHOWN ON THE SUBJECT PROJECT SHALL BE IMPLEMENTED PRIOR TO AND DURING CONSTRUCTION IN THE PROPER SEQUENCING TO MINIMIZE SOIL EROSION. EROSION CONTROLS SHALL BE INSPECTED AND MAINTAINED AS DESCRIBED ELSEWHERE ON THE PLANS. EXCESSIVE DUSTING OF SOIL ON THE SITE SHALL BE MINIMIZED BY REDUCING CONSTRUCTION TRAFFIC ACROSS BARE SOIL DURING DRY AND/OR WINDY WEATHER, AND BY APPLYING WATER OR OTHER ACCEPTABLE DUST CONTROL MEASURES TO THE SOIL. UPON COMPLETION OF CONSTRUCTION AND SUITABLE ESTABLISHMENT OF PERMANENT VEGETATION, TEMPORARY EROSION CONTROL MEASURES SUCH AS SILT FENCE, CHECK DAMS AND INLET PROTECTION DEVICES SHALL BE REMOVED IN A MANNER TO MINIMIZE ADDITIONAL LAND DISTURBANCE. ANY AREAS DISTURBED BY THESE OPERATIONS SHALL BE PROPERLY REVEGATATED.

B. LARGE WASTE MATERIALS CREATED BY CUTTING, SAWING, DRILLING, OR OTHER OPERATIONS SHALL BE PROPERLY DISPOSED OF IN SUITABLE WASTE CONTAINERS. THE SITE SHALL BE CHECKED AT THE END OF THE DAY, AS A MINIMUM, AND ALL WASTE MATERIALS, INCLUDING THOSE BLOWN ACROSS OR OFF THE SITE BY WIND SHALL BE PICKED UP AND DISPOSED OF IN SUITABLE CONTAINERS. WHERE POSSIBLE, OPERATIONS SUCH AS SAWING THAT CREATE SMALL PARTICLES SHOULD BE PERFORMED IN ONE SPOT IN AN AREA PROTECTED FROM WIND, AND WASTE PARTICLES COLLECTED AND DISPOSED OF FREQUENTLY TO MINIMIZE WIND DISPERSAL. PACKAGING USED TO TRANSPORT MATERIALS TO THE SITE FOR CONSTRUCTION OF THE FACILITY SHALL BE DISPOSED OF PROPERLY, WEATHER THE MATERIAL IS TAKEN OUT OF ITS PACKAGE AND

INCORPORATED INTO THE PROJECT IMMEDIATELY OR STORED ONSITE FOR FUTURE USE. PACKAGED
MATERIALS STORED ONSITE SHALL BE INSPECTED REGULARLY AND ANY LOOSE PACKAGING SHALL BE REPAIRED OR
DISPOSED OF PROPERLY.

C. ALL DEWATERING OF ACTIVITIES SHALL BE DONE IN ACCORDANCE TO GOOD EROSION CONTROL PRACTICES.
THESE PRACTICES SHOULD INCLUDE THE USE OF DIRT BAGS SUCH AS DANDY DIRT BAGS. THE USE OF THESE

TYPES OF DEWATERING DEVICES WILL REMOVE LARGE QUANTITIES OF SILT, SEDIMENT, AND DIRT AND PREVENT THESE MATERIALS TO ENTER THE STORM SEWER SYSTEM.

D. IF THE USE OF LIME IS USED TO STABILIZE THE SOIL OF THE SITE THEN ALL CONSTRUCTION EQUIPMENT USED SHALL BE CLEANED OF ALL EXCESS MATERIAL WITH WATER IN THE MAINTENANCE AND REFUELING AREA AS SHOWN WITHIN THESE PLANS.

E. NUTRIENTS AND FERTILIZERS SHALL ONLY BE USED TO ESTABLISH RAPID VEGETATION. WHEN THESE PRODUCTS

ARE UTILIZED, THE USER SHOULD PAY STRICT ATTENTION TO THE PRODUCTS RECOMMENDED USAGE.

3. CONCRETE WASTE WATER

A. ALL CONCRETE WASTEWATER SHALL BE DISPOSED OF IN THE DESIGNED AREA AS DIRECTED BY THE GENERAL CONTRACTOR OR DEVELOPER/OWNER. THIS AREA IS TO BE A 3' DEEP, 10' SQUARE PIT AS DETAILED ON THE EROSION CONTROL PLAN. THIS AREA SHALL BE INSPECTED ON A DAILY BASIS AT A MINIMUM. WHEN THIS AREA BECOMES FULL, THE POLLUTANTS SHALL BE EXCAVATED, PLACED IN AN ACCEPTABLE CONTAINER AND DISPOSED OF

A. PAINT PRODUCTS

A. ALL EXCESS PAINT AND THEIR RELATED PRODUCTS SHALL BE DISPOSED OF IN THE MANNER AT WHICH THE MANUFACTURER SUGGESTS. UNDER NO CIRCUMSTANCES WILL PAINT OR THEIR RELATED PRODUCTS BE CLEANED OR DISPOSED OF IN SOIL, SANITARY SEWERS, STORM SEWERS OR DETENTION BASINS. ANY VIOLATION OF THIS SHALL BE REPORTED TO THE JOB SUPERINTENDENT.

IN THE EVENT OF ACCIDENTALLY CONTAMINATION ALL EFFORTS SHOULD BE MADE TO REMOVE CONTAMINANTS IN AN APPROPRIATE MANNER. THE JOHNSON COUNTY FIRE DEPARTMENT SHOULD BE CONTACTED IMMEDIATELY TO DETERMINE IF FURTHER MEASURES ARE NEEDED.

PERMANENT SEEDING SPECIFICATIONS:

1) ALL DISTURBED LAWN AREAS SHALL RECEIVE PERMANENT SEEDING IMMEDIATELY.
2) ALL DISTURBED LAWN AREA TO HAVE A MINIMUM OF 6 INCHES OF TOPSOIL (COMPACTED THICKNESS).
3) TOPSOIL TO BE FERTILE, FRIABLE, SANDY LOAM REASONABLY FREE OF SUBSOIL, CLAY LUMPS, STONES LARGER THAN ½", EXCESSIVE QUANTITIES OF SMALL STONE/GRAVEL, BRUSH AND OTHER LITER.
4) SOLVE ANY SURFACE OR SUBSURFACE DRAINAGE PROBLEMS AND CONSTRUCT PERMANENT EROSION CONTROL

STRUCTURES.

5) PERFORM THE MAJOR FILLING, SHAPING AND SMOOTHING OF GULLIES OR ERODED AREAS.

6) HAVE TOPSOIL TESTED TO CHECK PH AND NUTRIENT LEVELS. PROVIDE FERTILIZER AND SOIL AMENDMENTS AS REQUIRED TO MEET/EXCEED MINIMUM REQUIREMENTS AS SUGGESTED ON SOILS TEST RESULTS FOR LAWNS.

7) WORK FERTILIZER AND SOIL NUTRIENTS INTO TOP 2-3 INCHES OF THE TOPSOIL WITH A SMALL DISK, HARROW OR RAKE OPERATED ACROSS THE SLOPE AS MUCH AS POSSIBLE.

8) ROLL THE TOPSOIL WITH A WATER BALLAST ROLLER WEIGHING 100 TO 300 POUNDS DEPENDING ON SOIL TYPE. ROLL WITH TOPSOIL IN A SEMI-DRY CONDITION IN TWO OPPOSITE DIRECTIONS (RIGHT ANGLES).

9) RAKE OR SCARIFY AND CUT OR FILL IRREGULARITIES THAT DEVELOP AS REQUIRED AND AGAIN ROLL UNTIL AREA IS TRUE AND UNIFORM, FREE FROM LUMPS, DEPRESSIONS AND IRREGULARITIES.

10) SOW SEED WITH ADEQUATE EQUIPMENT AT A TIME WHEN LITTLE OR NO WIND IS BLOWING. BROADCAST HALF OF SEED IN ONE DIRECTION AND THE OTHER HALF IN THE OPPOSITE DIRECTION (RIGHT ANGLES).

11) COVER SEED TO A DEPTH OF ½" BY RAKING OR HARROWING. PROVIDE A LIGHT LAYER OF STRAW OR HAY MULCH AT A RATE OF 2 TONS PER ACRE. APPLY TACKIFIER TO STABILIZE MULCH.

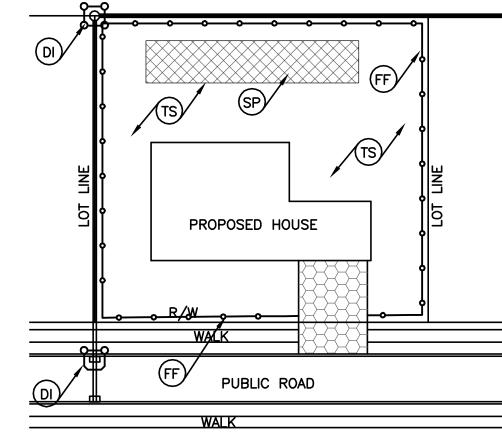
12) HYDROSEEDING IS ACCEPTABLE METHOD OF SEEDING.13) KEEP TOPSOIL RELATIVELY MOIST UNTIL LAWN IS ESTABLISHED.

14) RESEED AREAS THAT DO NOT SHOW PROMPT GERMINATION AT 14 DAY INTERVALS UNTIL AN ACCEPTABLE STAND OF GRASS IS ASSURED.

15) ALL LAWNS SHALL BE GUARANTEED TO HAVE A FULL UNIFORM STAND OF ACCEPTABLE GRASS AT END OF ONE

YEAR GUARANTEE PERIOD WITH NO BARE SPOTS COMPRISING MORE THAN 2% OF ANY LAWN AREA. ANY AREA SO NOTED WILL BE REWORKED UNTIL AN ACCEPTABLE STAND OF GRASS IS ESTABLISHED.

16) ALL LAWNS TO BE MAINTAINED UNTIL FINAL INSPECTION BY LANDSCAPE DESIGNER BUT NOT LESS THAN 60 DAYS FROM TIME OF INSTALLATION. MAINTENANCE TO INCLUDE WATERING, WEEDING, CULTIVATION, MULCHING, MOWING AND ALL OTHER NECESSARY OPERATIONS REQUIRED FOR PROPER ESTABLISHMENT OF LAWN.



LEGEND :

F) ---- FILTER FENCE

TEMPORARY-SEEDING

DROP INLET PROTECTION

STOCKPILE PROTECTION

GRAVEL CONSTRUCTION ENTRANCE

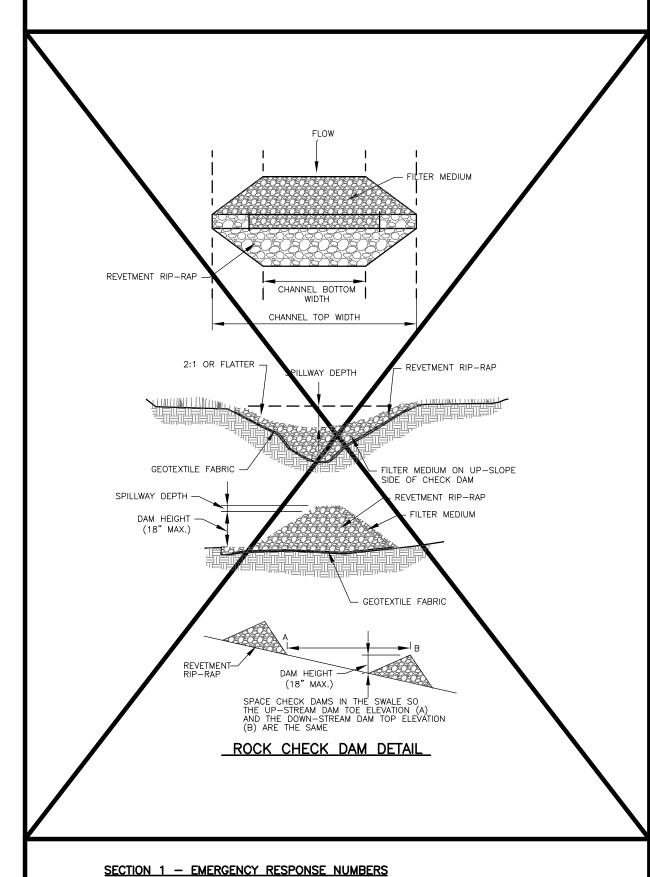
INDIVIDUAL LOT EROSION PLAN

INDIVIDUAL LOT EROSION NOTES :

1. ALL EROSION CONTROL MEASURE SHALL BE IN COMPLIANCE WITH THE INDIANA STORM WATER QUALITY MANUAL — PLANNING AND SPECIFICATIONS GUIDE FOR EFFECTIVE EROSION AND SEDIMENT CONTROL AND POST—CONSTRUCTION WATER QUALITY, OCTOBER 2007.

2. THE SILT FENCE AND APPROPRIATE EROSION CONTROL SHALL BE INSTALLED PRIOR TO ANY CONSTRUCTION. LOCATION OF SILT FENCE TO APPROVED BY CITY.

3. CONCRETE WASHOUT BASIN TO BE AVAILABLE WITHIN SUBDIVISION OR BUILDER WILL NEED TO INSTALL ONE.



EMERGENCY RESPONSE TO ANY LIFE THREATENING PROBLEM

911

CITY FIRE DEPARTMENT

EMERGENCY—911
317—595—3200

CITY POLICE DEPARTMENT

EMERGENCY—911
317—595—3300

INDIANA DEPARTMENT OF NATURAL RESOURCES

812—477—8773

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

317—233—7745

HAMILTON COUNTY SOIL AND WATER

317—773—2181

THIS PLAN TO BE USED FOR EROSION CONTROL PURPOSES ONLY. THE CITY/COUNTY ENGINEER HAS THE RIGHT TO REQUIRE ADDITIONAL EROSION CONTROL MEASURES IN THE FIELD AS CONDITIONS WARRANT.

ALL EROSION CONTROL PRACTICES SHALL BE IN ACCORDANCE WITH THE INDIANA STORM WATER QUALITY MANUAL DATED OCTOBER 2007 BY THE INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT (IDEM).

SOILS TYPE LEGEND

MmB2 MIAMI SILT LOAM, 2 TO 6 PERCENT SLOPES, ERODED.

THE MAIN SOIL FEATURES THAT ADVERSELY AFFECT ENGINEERING USES ARE MODERATE POTENTIAL FROST ACTION, MODERATE SHRINK—SWELL POTENTIAL, AND MODERATELY SLOW PERMEABILITY. THE SOIL HAS SEVERE LIMITATIONS FOR BUILDING SITES BECAUSE OF SLOPE. THIS SOIL HAS SEVERE LIMITATIONS FOR LOCAL ROADS AND STREETS. THIS SOILS HAS SEVERE LIMITATIONS FOR SEPTIC TANK ABSORPTION FIELDS BECAUSE OF MODERATELY SLOW PERMEABILITY AND SLOPE.

OCA OCKLEY LOAM, 0 TO 2 PERCENT SLOPES, ERODED.
THE MAIN SOIL FEATURES THAT ADVERSELY AFFECT ENGINEERING USES ARE MODERATE POTENTIAL FROST ACTION, MODERATE SHRINK—SWELL POTENTIAL, AND SLOW PERMEABILITY. THE SOIL HAS SEVERE LIMITATIONS FOR BUILDING SITES, WITH LOW STRENGTH AND MODERATE SAND CONTENT. THIS SOIL HAS SEVERE LIMITATIONS FOR LOCAL ROADS AND STREETS. THE BASE MATERIAL FOR ROADS NEEDS TO BE STRENGTHENED OR REPLACED WITH SUITABLE MATERIAL.

WHEAT OR RYE OATS ANNUAL RYEGRASS JAN FEB MAR APR MAY JUN JUL AUG SEP OCT NOV DEC TEMPORARY SEEDING DATES:

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
NATIVE SEED												
NON-IRRIGATED*												
IRRIGATED												
DORMAT SEEDING**												

IRRIGATION NEEDED DURING THIS PERIOD, TO CONTROL EROSION AT TIMES OTHER THAN IN THE SHADED AREAS, USE MULCH

* LATE SUMMER SEEDING DATES MAY BE EXTENDED 5 DAYS IF MULCH IS APPLIED.

** INCREASE SEEDING APPLICATION BY 50%
PERMANENT SEEDING DATES

<u>SEEDING DATES</u>

KIND OF SEED 1000 SQ.FT. ACRE REMARKS

WHEAT OR RYE 3.5 LBS. 2 BU. COVER SEED 1" TO 1-1/2" DEEP

SPRING OATS 2.3 LBS. 3 BU. COVER SEED TO 1" DEEP

ANNUAL RYEGRASS 1 LB. 40 LBS. COVER SEED TO 1/4" DEEP

* NOT NECESSARY WHERE MULCH IS APPLIED. TEMPORARY SEED MIXTURES

SPECIES		ING RATE ACRE LBS/1000	SUITABLE PH	SITE SUITA	BILITY	
	LBS/	SQ. FT.	РП	DROUGHTY	WELL DRAINED	WET
LEVEL AND SLOPING. OPEN AREAS 1. TALL FESCUE 2. TALL FESCUE RED CLOVER** 3. KENTUCKY BLUEGRASS CREEPING RED FESCUE	35 25 5 15	.8 .6 .12 .4 .4	5.5-8.3 5.5-8.3 5.5-7.5	2	1 1	2
STEEP BANKS AND CUTS 4. TALL FESCUE KENTUCKY BLUEGRASS	15 25	.4 .6	5.8-7.5	2	1	2
5. TALL FESCUE EMERALD CROWNVETCH	35 10	.6 .8 .25	5.5-8.3	2	1	
LAWNS AND HIGH MAINTENANCE AREAS						
6. KENTUCKY BLUEGRASS CREEPING RED FESCUE	40 40	.9 .9	5.8-7.5	2	1	
7. PERENNIAL RYEGRASE (TURF TYPE)	170	4.0	5.0-7.5		1	
8. TALL FESCUE	170	4.0	5.5-8.3	2	1	2

1 - PREFERRED 2 - WILL TOLERATE PERMANENT SEED MIXTURES

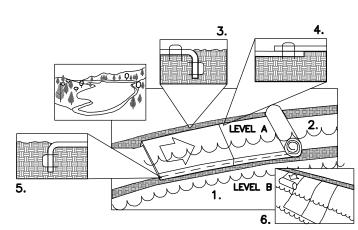
APPLY LIME TO RAISE THE PH TO THE LEVEL NEEDED FOR SPECIES BEING SEEDED. APPLY 23 POUNDS OF 12-12-12 ANALYSIS FERTILIZER (OR EQUIVALENT) PER 1000 SQ. FT. (APPROXIMATELY 1000 POUNDS PER ACRE) OR FERTILIZE ACCORDING TO TEST. APPLICATION OF 150 LBS. OF AMMONIUM NITRATE ON AREAS LOW IN ORGANIC MATTER AND FERTILITY WILL GREATLY ENHANCE

WORK THE FERTILIZER AND LIME INTO THE SOIL TO A DEPTH CF 2-3 INCHES WITH A HARRCW. DISK OR RAKE OPERATED ACROSS THE SLOPE AS MUCH AS POSSIBLE.

SELECT A SEEDING MIXTURE BASED ON PROJECTED USE OF THE AREA, WHILE CONSIDERING BEST SEEDING DATES.

SEEDING PREPARATION

	10011	YIIBZ } a					
YflB2 Yob,	YobA ObaA FoB2 FoB2	ObaA FoB2 ObaA yfhC2		DATE			
YmsB2 3	ObaA	OcB2 ObaA yfhC2 MnB2 ymsB2	Si S	REVISION			
TO THE STATE OF TH	ObaA TuB2	FoB2	YclA				
NORTH	SOILS MA		,	SYMBOL			
FOR COMPL	EROSION CONTROL RE IANCE WITH IDEM GEN				DRAWN JPH	снескер JKS	CERTIFIED JKS
1. ALL EROSION CONTROL PRACTIC THE INDIANA STORM WATER QUA THE INDIANA DEPARTMENT OF E	CES SHALL BE IN ACCORDANCE WITH ALITY MANUAL DATED OCTOBER 2007 BY ENVIRONMENTAL MANAGEMENT (IDEM).	5. THIS EROSION CONTROL PLAN SHALL BE IMPLEMENTED ON AREAS WITHIN THE CONSTRUCTION SITE. ALL MEASURES IN CONTROL PRACTICES SHALL BE INSTALLED UNDER THE GU QUALIFIED PERSONNEL EXPERIENCED IN EROSION CONTROL THE PLANS AND SPECIFICATIONS INCLUDED HEREIN.	IVOLVING EROSION JIDANCE OF A			ပ	Ö
INSTALLED PRIOR TO INITIAL LAN SOON AS PRACTICAL. SEDIMENT FROM THE PROJECT SITE BY IN STRAW BALES, SEDIMENT BASINS SHOWN ON THIS PLAN, ENERGY. CONTROL AT THE OUTFALL OF T INSTALLED AT THE TIME OF THE PROPOSED DETENTION BASIN SHOURING CONSTRUCTION FOR AS 3. ALL ON—SITE STORM DRAIN INLE SEDIMENTATION WITH FILTER FAB BARRIERS AS SHOWN ON THIS F 4. EXCEPT AS PREVENTED BY INCL CIRCUMSTANCES BEYOND THE CAPPROPRIATE EROSION CONTROL SEVEN DAYS OF THE LAST LAND	SHALL BE PREVENTED FROM DISCHARGING STALLING AND MAINTAINING SILT FENCE, S, ETC. AS SHOWN I=ON THIS PLAN. IF —DISSIPATION DEVICES OR EROSION HE STORM SEWER SYSTEM SHALL BE CONSTRUCTION OF THE OUTFALL. THE HALL BE UTILIZED AS A SEDIMENT BASIN LONG AS PRACTICAL. ETS SHALL BE PROTECTED AGAINST RIC, OR EQUIVALENT PLAN. EMENT WEATHER CONDITIONS OR OTHER ONTROL OF THE CONTRACTOR / DEVELOPER . PRACTICES WILL BE INITIATED WITHIN (7) DISTURBING ACTIVITY AT THE SITE. THE SEEDING, SODDING, MULCHING, COVERING,	6. DURING THE PERIOD OF CONSTRUCTION ACTIVITY, ALL SET AND OTHER EROSION CONTROL MEASURES SHALL BE MAIN CONTRACTOR. AT THE COMPLETION OF CONSTRUCTION, TH SHALL COORDINATE THE TRANSFER OF REQUIRED MAINTEN RESPONSIBILITIES WITH THE OWNER. 7. PUBLIC OR PRIVATE ROADWAYS SHALL BE KEPT CLEARED SEDIMENT. BULK CLEARING OF ACCUMULATED SEDIMENT SHE FLUSHING THE AREA WITH WATER. CLEARED SEDIMENT SHATO THE POINT OF LIKELY ORIGIN OR OTHER SUITABLE LOCAL BROAD STAND OTHER SUBSTANCES ON THE SITE IN SUCH A WAY TO THE SUBSTANCES ON THE SITE BY THE ACTION OF WATER RUNOFF, OR OTHER FORCES. PROPER DISPOSAL OF ALL WASTES AND UNUSED BUILDING MATERIALS APPRONATURE OF THE WASTE OR MATERIAL IS REQUIRED.	NTAINED BY THE IE CONTRACTOR JANCE OF ACCUMULATED HALL NOT INCLUDE ALL BE RETURNED CATION. BRIS, WASTEWATER, HAT THEY SHALL F WINDS, STORM OR MANAGEMENT	PROJECT — SECTION ONE	≻	FR POLLUTION	ΑN
CONSTRUCTION PHASE (SPECIFIC ACTIVITIES OR EROSION CONTROL PRACTICES) PRE—CONSTRUCTION ACTIONS (EVALUATION/PROTECTION OF IMPORTANT SITE CHARACTERISTICS)	CONSTRUCTION SCHEDULE CONSIDERATIONS PRIOR TO COMMENCING CONSTRUCTION ACTIVITIES,	ON SEQUENCE SCHEDULING MONITORING AND MAINTENANCE SCHEDULE ESTABLISH AND EVALUATE PROJECT ASSIGN SUPERINTENDENT WHOM WILL BE IN CHARGE OF OVERSEEING EROSION FACILITIES.	CONSTRUCTION START DATE (APPROX. DATE) WEEK OF . (LASTING APPOX. 1 WEEK)	PR SERRY CHASE	TOWNSHIP,	" STORM WATE	PREVENTION PI
CONSTRUCTION ACCESS (CONSTRUCTION ENTRANCES, CONSTRUCTION ROUTES, EQUIPMENT PARKING AREAS)	STABILIZE BARE AREAS IMMEDIATELY WITH GRAVEL AND TEMPORARY VEGETATION PRIOR TO COMMENCING WORK.	INSPECT CONSTRUCTION ENTRANCE WEEKLY AND AFTER EACH 1/2" RAIN EVENT AND HEAVY USEAGE. RESHAPE AND TOP DRESS AS NEEDED INCLUDING REMOVAL OF IMMEDIATED SEDIMENTS BY SWEEPING OR BRUSHING. IF FLUSHING PROVIDE ADEQUATE SEDIMENT TRAPS FOR WATER CONVEYANCE.	WEEK OF . (LASTING APPOX. 1 WEEK)	BFI			
SEDIMENT BARRIERS AND TRAPS (SEDIMENT BASINS, SILT FENCES, OUTLET PROTECTION)	INSTALL PRINCIPAL BASINS AFTER CONSTRUCTION SITE IS ASSESSED. INSTALL ADDITIONAL TRAPS AND BARRIERS AS NEEDED DURING GRADING. CONSTRUCT DETENTION BASINS AFTER CONSTRUCTED, INSTALL PERIMETER SWALES.	INSPECT THE FABRIC BARRIER WEEKLY AND AFTER EACH 1/2" RAIN EVENT, AND MAKE NEEDED REPAIRS IMMEDIATELY. REMOVE SEDIMENT FROM THE POOL AREA TO PROVIDE STORAGE FOR THE NEXT STORM. AVOID DAMAGING OR UNDERCUTTING THE FABRIC DURING SEDIMENT REMOVAL. WHEN THE CONTRIBUTING DRAINAGE AREA HAS BEEN STABILIZED, REMOVE AND PROPERLY DISPOSE OF ALL CONSTRUCTION MATERIAL AND SEDIMENT, GRADE THE AREA TO THE ELEVATION OF THE TOP OF THE INLET, THEN STABILIZE.	WEEK OF . (LASTING APPOX. 1 WEEK)	Sn			
RUNOFF CONTROL (DIVERSIONS, PERIMETER DIKES, WATER BARS, OUTLET PROTECTION)	INSTALL PRACTICES AFTER PRINCIPAL SEDIMENT TRAPS ARE INSTALLED BUT BEFORE SITE GRADING. INSTALL ADDITIONAL RUNOFF CONTROL MEASURES DURING GRADING AS NEEDED.	INSPECT THE SEDIMENT BASIN WEEKLY AND AFTER EACH 1/2" RAIN EVENT. REMOVE AND PROPERLY DISPOSE OF SEDIMENT WHEN IT ACCUMULATES TO ONE—HALF THE DESIGN VOLUME (LEVEL MARKED BY A REFERENCE STAKE) PERIODICALLY CHECK THE EMBANKMENT, EMERGENCY SPILLWAY, AND OUTLET FOR EROSION DAMAGE, PIPING, SETTLING, SEEPAGE, OR SLUMPING ALONG THE TOE OR AROUND THE BARREL; AND REPAIR IMMEDIATELY. REMOVE TRASH AND OTHER DEBRIS FROM THE RISER, EMERGENCY SPILLWAY, AND POOL AREA. CLEAN OR REPLACE THE GRAVEL AROUND THE RISER IF THE SEDIMENT POOL DOES NOT DRAIN PROPERLY. REMOVE THE BASIN AFTER THE DRAINAGE AREA HAS BEEN PERMANENTLY STABILIZED, INSPECTED, AND APPROVED. DO SO BY DRAINING ANY WATER, REMOVING THE SEDIMENT TO A DESIGNATED DISPOSAL AREA, SMOOTHING THE SUFFE TO BLEND WITH THE SURROUNDING AREA. THEN STABILIZING.			SURVEYING COMPANY		SURVEYING—CONSTRUCTION LAYOUT e A — Greenwood, Indiana 46143)—882—5003
RUNOFF CONVEYANCE SYSTEMS (STABILIZED STREAMBANKS, STORM SEWER DRAINS, INLET AND OUTLET PROTECTION, OPEN CHANNELS)	WHERE NECESSARY, STABILIZE STREAMBANKS AS EARLY AS POSSIBLE. INSTALL PRINCIPAL CONVEYANCE SYSTEM WITH RUNOFF CONTROL MEASURES. INSTALL REMAINDER OF SYSTEM AFTER GRADING.	PLACEMENT STORM SEWER DRAINS, INLETS AND PIPES TO BE IMMEDIATELY FOLLOWED BY INLET PROTECTION MEASURES AND TEMPORARY SEDIMENT TRAPS. OPEN CHANNEL DRAINAGE SWALES TO BE IMMEDIATELY FOLLOWED BY PLACEMENT OF EROSION CONTROL BILANKETS. INSPECT TEMPORARY SEDIMENT TRAPS WEEKLY AND 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 1/2—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.	WEEK OF . (LASTING APPOX. 4 WEEK)	OIEC	GREENWOOD SURV		ENGINEERING-LAND Airport Parkway Suit (317)
LAND CLEARING AND GRADING (CUTTING/FILLING, GRADING DRAINS, SEDIMENT TRAPS, BARRIERS, DIVERSIONS, SURFACE ROUGHENING)	BEGIN MAJOR CLEARING AND GRADING AFTER INSTALLING THE KEY SEDIMENT AND RUNOFF MEASURES. CLEAR BORROW AND DISPOSAL AREAS AS NEEDED. INSTALL ADDITIONAL CONTROL MEASURES AS GRADING PROGRESSES.	INSPECT NEWLY TOPSOILED AREAS WEEKLY UNTIL VEGETATION IS ESTABLISHED. REPAIR ERODED OR DAMAGED AREAS AND REVEGETATE.	WEEK OF . (LASTING APPOX. 4 WEEK)				SIIE 1257
SURFACE STABILIZATION (TEMPORARY AND PERMANENT SEEDING, MULCHING, SODDING, RIP-RAP)	APPLY TEMPORARY OR PERMANENT STABILIZATION MEASURES IMMEDIATELY ON ALL DISTURBED AREAS WHERE WORK IS DELAYED OR COMPLETED.	INSPECT WEEKLY AND ESPECIALLY AFTER EACH 1/2" RAIN EVENT, UNTIL THE STAND IS SUCCESSFULLY ESTABLISHED. (CHARACTERISTICS OF A SUCCESSFUL STAND INCLUDE: VICOROUS DARK GREEN OR BLUISH-GREEN SEEDLINGS; UNIFORM DENSITY WITH NURSE PLANTS, LEGUMES, AND GRASSES WELL INTER- MIXES; GREEN LEAVES; AND THE PERENNIALS REMAINING GREEN THROUGHOUT THE SUMMER, AT LEAST AT THE PLANT BASE.) PLAN TO ADD FERTILIZER THE FOLLOWING GROWING SEASON ACCORDING TO SOIL TEST RECOMMENDATIONS. REPAIR DAMAGED, BARE, OR SPARSE AREAS BY FILLING ANY GULLIES, RE-FERTILIZING, OVER-OR RE-SEEDING, AND MULCHING. IF PLANT COVER IS SPARSE OR PATCHY, REVIEW THE PLANT MATERIALS CHOSEN, SOIL FERTILITY, MOISTURE CONDITION, AND MULCHING; THEN REPAIR THE AFFECTED AREA EITHER BY OVER-SEEDING OR BY RE-SEEDING AND MULCHING AFTER RE- PREPARING THE SEEDBED. IF VEGETATION FAILS TO GROW, CONSIDER SOIL TESTING TO DETERMINE ACIDITY OR NUTRIENT DEFICIENCY PROBLEMS. IF ADDITIONAL FERTILIZATION IS NEEDED TO GET A SATISFACTORY STAND, DO SO ACCORDING TO SOIL TEST RECOMMENDATIONS. INSPECT AFTER STORM EVENTS TO CHECK FOR MOVEMENT OF MULCH OR FOR EROSION. IF WASHOUT, BREAKAGE, OR EROSION IS PRESENT, REPAIR THE SURFACE, THEN RE-SEED, RE-MULCH AND, IF APPLICABLE, INSTALL NEW NETTING. CONTINUE INSPECTIONS UNTIL VEGETATION IS FIRMLY ESTABLISHED. INSPECT PERIODICALLY FOR DISPLACED ROCK MATERIAL, SLUMPING, AND EROSION AT EDGE, ESPECIALLY DOWNSTREAM OR DOWN SLOPE. (PROPERLY DESIGNED AND INSTALLED RIPRAP USUALLY REQUIRES VERY LITTLE MAINTENANCE IF PROMPTLY REPAIRED.)	WEEK OF . (LASTING APPOX. 2 WEEK)	THE PROPERTY OF	SE No 194 STATE	Ш.	MILLER WILLIAM PORT OF THE PART OF THE PAR
UTILITY / PAVEMENT CONSTRUCTION (UTILITIES, PAVING)	INSTALL NECESSARY EROSION AND SEDIMENT CONTROL PRACTICES AS WORK TAKES PLACE.	DURING VEGETATIVE ESTABLISHMENT, INSPECT WEEKLY AND AFTER EACH 1/2" RAIN EVENT FOR ANY EROSION BELOW THE BLANKET. IF ANY AREA SHOWS EROSION, PULLBACK THAT PORTION OF THE BLANKET COVERING IT ADD SOIL, RE-SEED THE AREA, AND RE- LAY AND STAPLE THE BLANKET. AFTER VEGETATIVE ESTABLISHMENT, CHECK THE TREATED AREA	WEEK OF (LASTING APPOX. 6 WEEK)				
BUILDING CONSTRUCTION	INSTALL NECESSARY EROSION AND SEDIMENT CONTROL PRACTICES AS WORK TAKES PLACE.	PERIODICALLY. DURING VEGETATIVE ESTABLISHMENT, INSPECT WEEKLY AND AFTER EACH 1/2" RAIN EVENT FOR ANY EROSION BELOW THE BLANKET. IF ANY AREA SHOWS EROSION, PULLBACK THAT PORTION OF THE BLANKET COVERING IT ADD SOIL, RE-SEED THE AREA, AND RE- LAY AND STAPLE THE BLANKET. AFTER VEGETATIVE ESTABLISHMENT, CHECK THE TREATED AREA PERIODICALLY.	WEEK OF (LASTING APPOX. 3 YEARS)	2	JOB NI 001 SHE	9.0	1
LANDSCAPING AND FINAL STABILIZATION (TOPSOIL, TREES, AND SHRUBS, PERMANENT SEEDING, MULCHING, SODDING, RIP-RAP) MAINTENAN	STABILIZE ALL OPEN AREAS INCLUDING BORROW AND SPOIL AREAS. REMOVE TEMPORARY CONTROL MEASURES AND STABILIZE. PERMANENT SEED ALL BARE SOIL AREAS. NCE INSPECT PRACTICES ONCE A WEEK, & AFTER EACH 1/2" RAIN	INSPECT WEEKLY AND AFTER EACH 1/2" RAIN EVENT, UNTIL THE STAND IS SUCCESSFULLY ESTABLISHED. REPAIR DAMAGED, BARE, OR SPARSE AREAS BY FILLING ANY GULLIES, RE-FERTILIZING, OVER-OR RE-SEEDING, AND MULCHING. IF PLANT COVER IS SPARSE OR PATCHY, REVIEW THE PLANT MATERIALS CHOSEN, SOIL FERTILITY, MOISTURE CONDITION, AND MULCHING; THEN REPAIR THE AFFECTED AREA EITHER BY OVER-SEEDING OR BY RE-SEEDING AND MULCHING AFTER RE- PREPARING THE SEEDBED. IF ADDITIONAL FERTILIZATION IS NEEDED TO GET A SATISFACTORY STAND, DO SO ACCORDING TO SOIL TEST RECOMMENDATIONS.		C	DA	TE	



- FOR OPTIMUM PERFORMANCE LOWER WATER FROM LEVEL A TO LEVEL B BEFORE PREPARE SOIL BEFORE INSTALLING BLANKETS INCLUDING APPLICATION OF LIME, FERTILIZER AND SEED.
- FERTILIZER AND SEED.

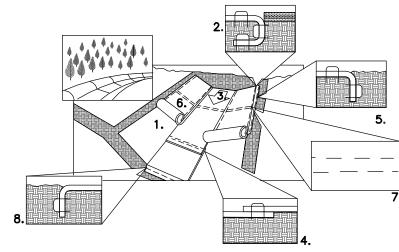
 THE TOP EDGE OF THE BLANKET MUST BE ANCHORED IN A 6" DEEP X 6" WIDE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING.

 PLACE BLANKETS END OVER END WITH A 3" TO 4" OVERLAP. STAPLE THROUGH BOTH BLANKETS OF THE OVERLAPPED AREA. APPROXIMATELY 6" APART.

 THE EDGE OF THE BLANKET THAT FALLS BELOW NORMAL WATER LEVEL MUST BE ANCHORED IN A 12" DEEP X 6" WIDE TRENCH. BACKFILL AND COMPACT THE TRENCH
- AFTER STAPLING. (STONE MAY BE SUBSTITUTED FOR SOIL BACKFILL).
 IF BANK IS STEEP OR IF WATER LEVEL VARIES MORE THAN THE WIDTH OF THE

NOTE: IN LOOSE SOIL CONDITIONS, THE USE OF 18" OR LONGER METAL/WASHER PINS MAY BE NECESSARY TO PROPERLY ANCHOR THE BLANKETS. REFER TO GENERAL STAPLE PATTERN GUIDE FOR CORRECT STAPLE PATTERN RECOMMENDATIONS FOR SLOPE INSTALLATIONS.

SHORELINE APPLICATIONS



- PREPARE SOIL BEFORE INSTALLING BLANKETS, INCLUDING APPLICATION OF LIME, FERTILIZER AND SEED.
- BEGIN AT THE TOP OF THE CHANNEL BY ANCHORING THE BLANKET IN A 6" DEEP
- X 6" WIDE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING.

 ROLL CENTER BLANKET IN DIRECTION OF WATER FLOW ON BOTTOM OF CHANNEL.

 PLACE BLANKETS END OVER END (SHINGLE STYLE) WITH A 6" OVERLAP. USE

 A DOUBLE ROW OF STAGGERED STATE OF SECURE STATES AND SECURE AND SECURE STATES.
- FULL LENGTH EDGE OF BLANKETS AT TOP OF SIDE SLOPES MUST BE ANCHORED
- IN6" DEEP X 6" WIDE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING. BLANKETS ON SIDE SLOPES MUST BE OVERLAPPED 4" OVER THE CENTER BLANKET

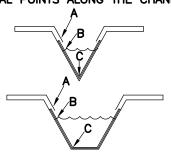
BLANKET, USE VERTICAL INSTALLATION,

- IN MEDIUM/HIGH FLOW CHANNEL APPLICATIONS, A STAPLE CHECK SLOT IS RECOM—MENDED AT 30 TO 40 FOOT INTERVALS. USE A ROW OF STAPLES 4" APART OVER THE ENTIRE WIDTH OF THE CHANNEL. PLACE A SECOND ROW 4" BELOW THE FIRST ROW
- IN A STAGGERED PATTERN. 8. THE TERMINAL END OF THE BLANKETS MUST BE ANCHORED IN A 6" DEEP X 6" WIDE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING.

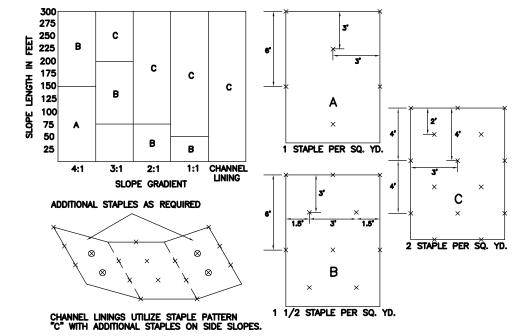
NOTE: HORIZONTAL STAPLE SPACING SHOULD BE ALTERED IF NECESSARY TO ALLOW STAPLES TO SECURE THE CRITICAL POINTS ALONG THE CHANNEL SURFACE.

CRITICAL POINTS

A. OVERLAPS AND SEAMS B. PROJECTED WATER LINE CHANNEL BOTTOM SIDE SLOPE VERTICES



CHANNEL APPLICATIONS

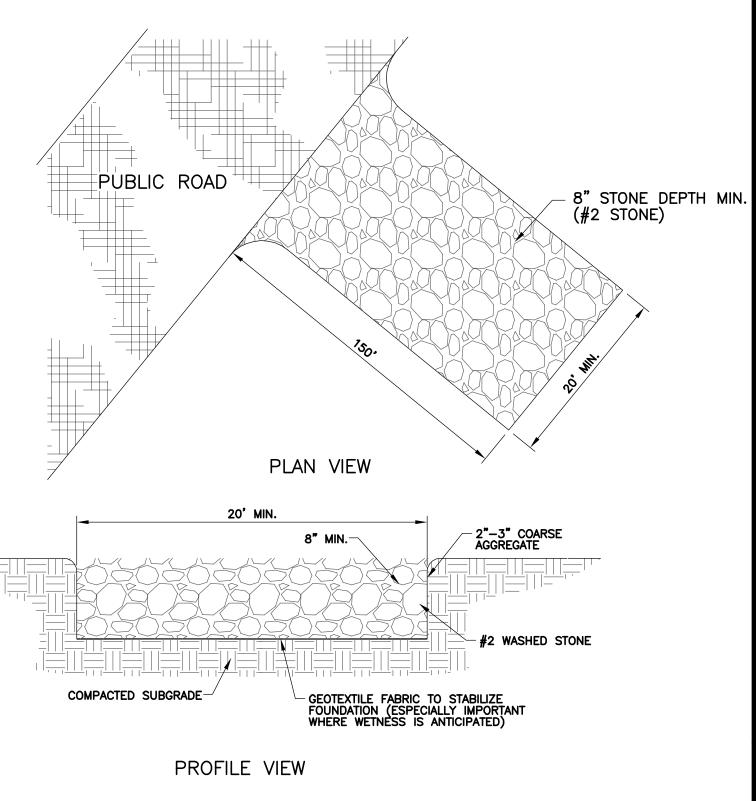


GENERAL STAPLE RECOMMENDATIONS

STAPLE PATTERNS APPLY TO ALL NORTH AMERICAN GREEN EROSION CONTROL BLANKETS. STAPLE PATTERNS MAY VARY DEPENDING UPON SOIL TYPE AND AVERAGE ANNUAL RAINFALL. AT SLOPE LENGTHS GREATER THAN 300 FEET OR WHERE DRAINAGE OVER LARGE AREAS IS DIRECTED ONTO THE BLANKETS, STAPLE PATTERN "C" SHOULD BE UTILIZED. CHANNEL LININGS REQUIRED A 2.0' MINIMUM OVERLAP AT LONGITUDINAL JOINTS. SIDESLOPES SHALL REQUIRE A 6" MINIMUM OVERLAP. WHERE OVERLAPS OCCUR, THE UPSTREAM BLANKET SHALL OVERLAP THE DOWNSTREAM. IF OTHER THAN NORTH AMERICAN GREEN EROSION CONTROL BLANKETS ARE INSTALLED FOLLOW THE INSTALLATION DIRECTIONS RECOMMENDED BY THAT PRODUCTS COMPANY.

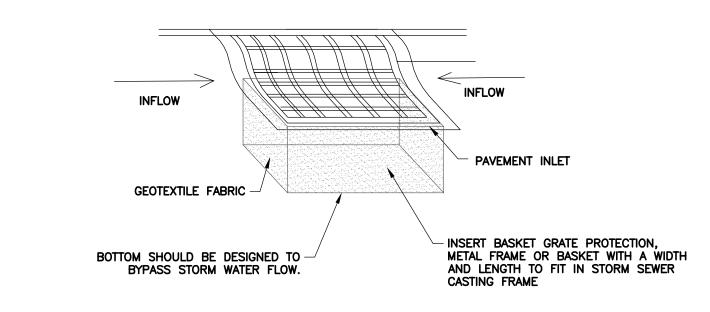
BLANKET STAPLE PATTERN

EROSION CONTROL BLANKET INSTALLATION



- 1. STONE SIZE SHALL CONFORM TO ASTM D48 SIZE #1(2" TO 3" DIA.)
- 2. PERIODIC STONE TOP DRESSING & WASHING AS REQUIRED.

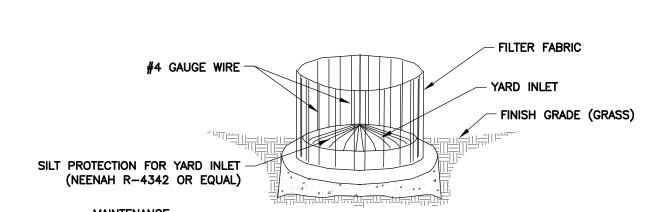
TEMPORARY CONSTRUCTION ENTRANCE DETAIL



INSPECT ONCE PER WEEK OR AFTER EACH 1/2" OF RAINFALL. REMOVE EXCESS DEPOSITS, REPLACE OR CLEAN FABRIC AS NEEDED. IF PROTECTION BECOMES INEFFECTIVE, REPAIR OR REPLACE IMMEDIATELY.

2. TO BE USED IN CONJUNCTION WITH OTHER SEDIMENT CONTROL MEASURES 3. AFTER THE CONTRIBUTING DRAINAGE AREA HAS BEEN STABILIZED, REMOVE THE INSERT AND SEDIMENT DEPOSITS.

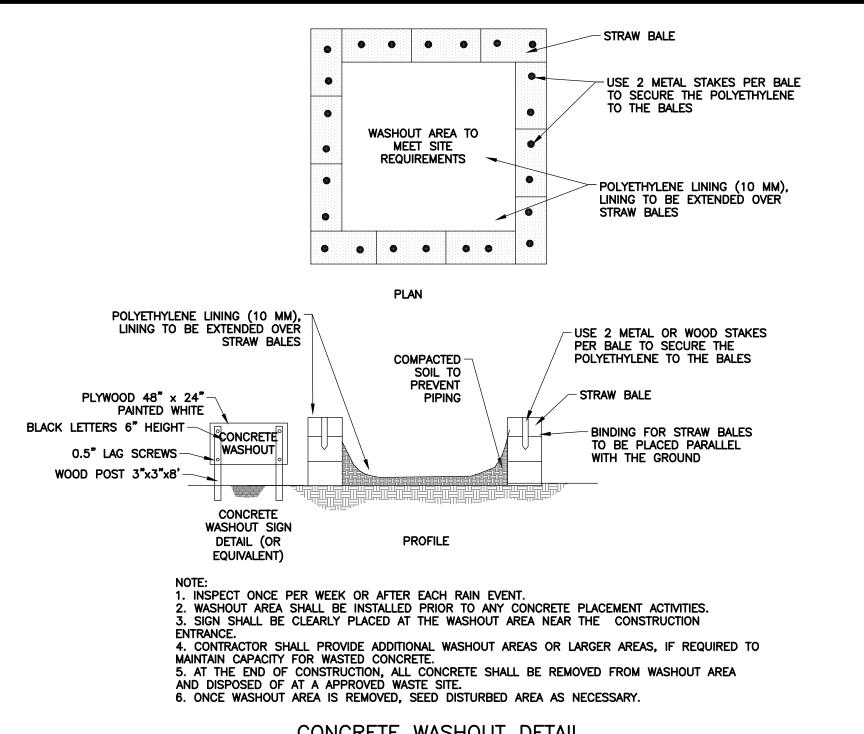
TEMPORARY BASKET INSERT PROTECTION DETAIL (PAVEMENT INLET)

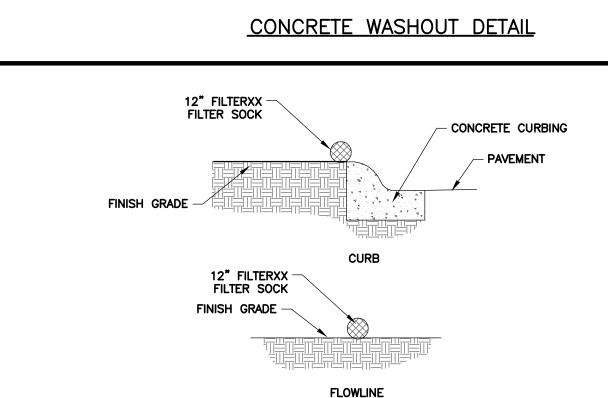


1. INSPECT THE YARD INLET PROTECTION ONCE PER WEEK DURING CONSTRUCION AND AFTER EACH STORM EVENT, AND MAKE NEEDED REPAIRS IMMEDIATELY. 2. IF PROTECTION BECOMES INEFFECTIVE, REPAIR OR REPLACE IMMEDIATELY. . REMOVE SEDIMENT FROM THE POOL AREA TO ENSURE ADEQUATE RUNOFF STORAGE FROM THE NEXT STORM EVENT. 4. AFTER THE CONTRIBUTING DRAINAGE AREA HAS BEEN STABILIZED, REMOVE THE FABRIC AND SEDIMENT DEPOSITS BRING THE DISTURBED AREA TO GRADE, AND STABILIZE.

DROP INLET BASKET 1. INTENT OF THE PROTECTION DEVICE IS TO DETAIN STORMWATER RUNOFF FOR PURPOSE OF ALLOWING SUSPENDED SOLIDS TO SETTLE OUT BEFORE WATER ENTERS THE YARD INLET. BOTTOM OF PROTECTION SHALL BE SEALED AGAINST THE BOTTOM OF THE CASTING, OVERALL DIMENSIONS SHALL BE NO SMALLER THEN THE YARD INLET CASTING. HEIGHT SHALL BE 15". 3. Basket frame shall be welded wire mesh or bent and weleded to itself to fit CASTING. WIRE FRAME SHALL BE .149 DIA OR LARGER WITH OPENINGS NO LARGER THEN 18 SQ. IN. TOP OF BASKET TO REMAIN OPEN. 4. FABRIC SHALL BE WOVEN POLPROPLYLENE, ALLOWING 15-25 GAL./MIN./SQ. IN. IF NON-WOVEN FABRIC IS USED, THE MAINTENANCE INTERVALS SHALL BE INCREASE TO REPLACE SILT LADEN FABRIC. FRABIC SHALL BE ATTACHED TO FRAM AND FOLDED UNDER BOTTOM TO SEAL AGAINST CASTING.

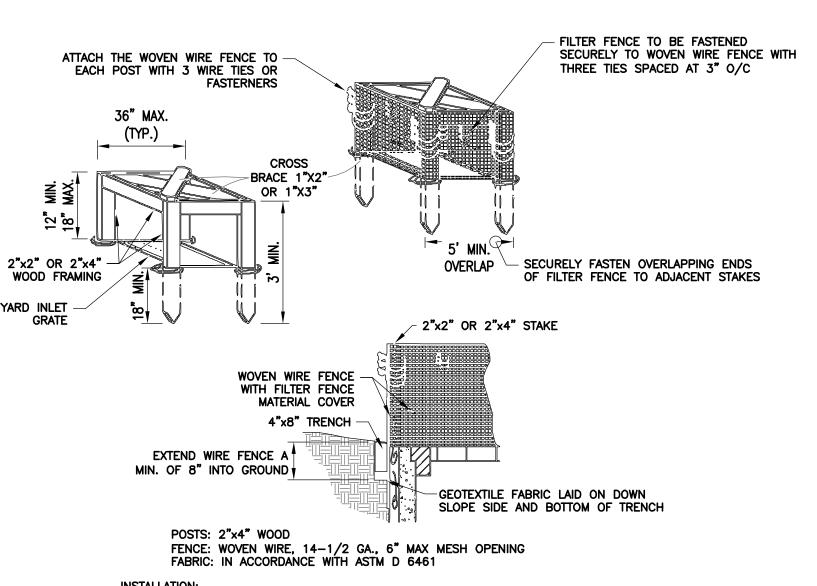
YARD INLET PROTECTION DETAIL





1. INSPECT ONCE PER WEEK OR AFTER EACH RAIN EVENT. INSPECT FOR DAMAGE FROM VEHICULAR OR CONSTRUCTION ACTIVITY. REPAIR AS NECESSARY 2. REMOVE ACCUMULATED SEDIMENT FROM PAVED AREA (DO NOT FLUSH WITH WATER) AFTER EACH STORM EVENT. PLACE REMOVED SEDIMENT IN A AREA THAT WILL BE RE-ENTER PAVED AREAS OR STORM INLETS.

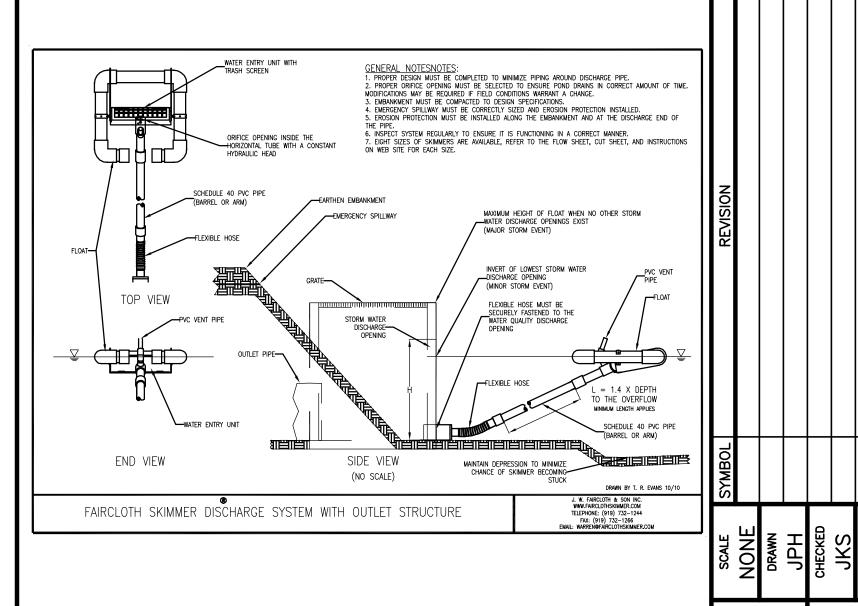
MULCH WATTEL FLOWLINE/CURB PROTECTION

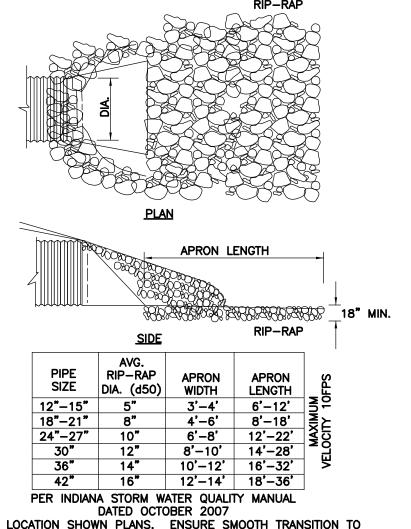


1. FOR FABRIC, DIG AN 8" DEEP, 4" WIDE TRENCH AROUND THE PERIMETER OF THE INLET, OR TUCK FABRIC IN UNDER INLET CASTING. 2. USING PRE-ASSEMBLED GEOTEXTILE FABRIC AND WIRE MESH, TIGHTLYSTRETCH THE GEOTEXTILE FABRIC AROUND CASTING. 3. PLACE THE BOTTOM 12 INCHES OF GEOTEXTILE FABRIC INTO THE EIGHT-INCH DEEP TRENCH, LAYING THE REMAINING FOUR INCHES IN THE BOTTOM OF THE TRENCH AND EXTENDING AWAY FROM THE INLET OR TUCK FABRIC IN UNDER CASTING. 4. BACKFILL THE TRENCH WITH SOIL MATERIAL AND COMPACT IT IN PLACE. 5. PROVIDE CROSS BRACING WITH SQUARED PROTECTION CONFIGURATION.

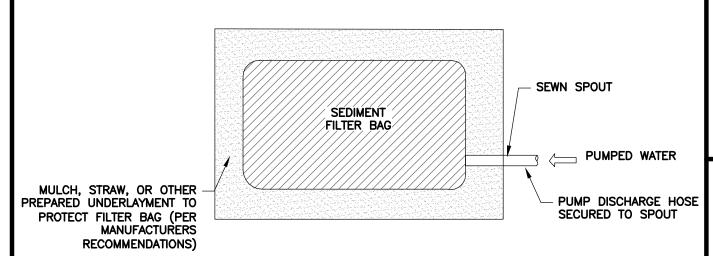
1. INSPECT WEEKLY AND AFTER EACH RAIN EVENT OF 1/2" OR MORE. 2. INSPECT GEOTEXTILE FABRIC AND MAKE NEEDED REPÁIRS IMMEDIATELY. 3. WHEN SEDIMENT DEPTH IS EQUAL TO OR GREATER THAN HALF THE FENCE HEIGHT, REMOVE SEDIMENT AND HAUL TO AN APPROVED LOCATION. 4. AFTER THE CONTRIBUTING DRAINAGE AREA HAS BEEN STABILIZED, REMOVE THE INSERT AND SEDIMENT

FILTER FENCE INLET PROTECTION DETAIL

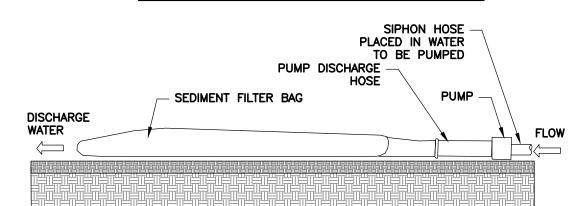




1. INSTALL AT LOCATION SHOWN PLANS. ENSURE SMOOTH TRANSITION TO SURROUNG GRADE. INSTALL GEOTEXTILE FABRIC ON COMPACTED SUBGRADE PRIOR TO INSTALLATION OF APRON. 2. INSPECT ONCE PER WEEK OR AFTER EACH RAIN EVENT. CHECK FOR STONE DISPLACEMENT, REPLACE AS NECESSARY. CHECK FOR PIPE UNDERCUTTING AND EROSION SCOURING, REPAIRE AS NEEDED.
3. REFER TO CHAPTER 7 OF THE INDIANA STORM WATER QUALITY MANUAL, DATED, OCTOBER 2007 FOR REQUIRED PRACTICES FOR CONCRETE WASHOUTS **OUTLET PROTECTION DETAIL**







1. PUMPING BAGS SHOULD BE INSTALLED ON A LEVEL SURFACE, THE AREA AROUND THE BAGS SHOULD BE STABLE (GRASS OR STONE) SIZE THE PUMPING BAG OR SETTLEMENT BASIN FOR SIZE OF PUMP.
 PROTECT THE DISCHARGE POINT FOR THE PUMP OUTLET TO PREVENT POINT SOURCE EROSION.

MAINTENANCE SEALED PIPE CONNECTIONS. 2. INSPECT DISCHARGE POINT FOR EROSION AND MAKE NECESSARY IMPROVEMENTS. 3. REPLACE PUMPING BAG WHEN FULL, DISPOSAL OF PER MANUFACTURE RECOMMENDATION.

DEWATERING BAG DETAIL



ONE

SECTION

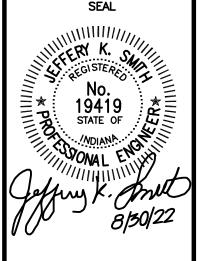
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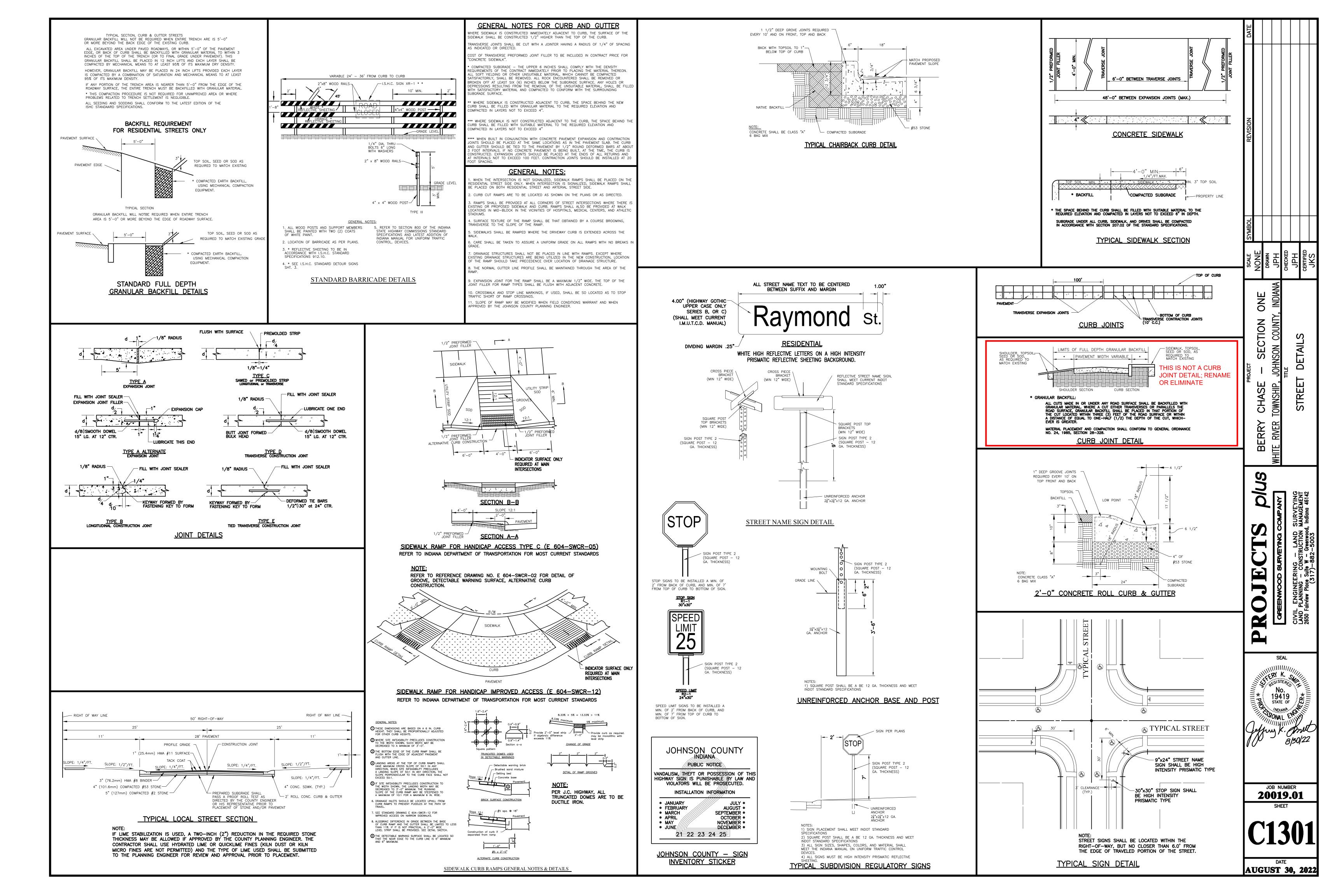
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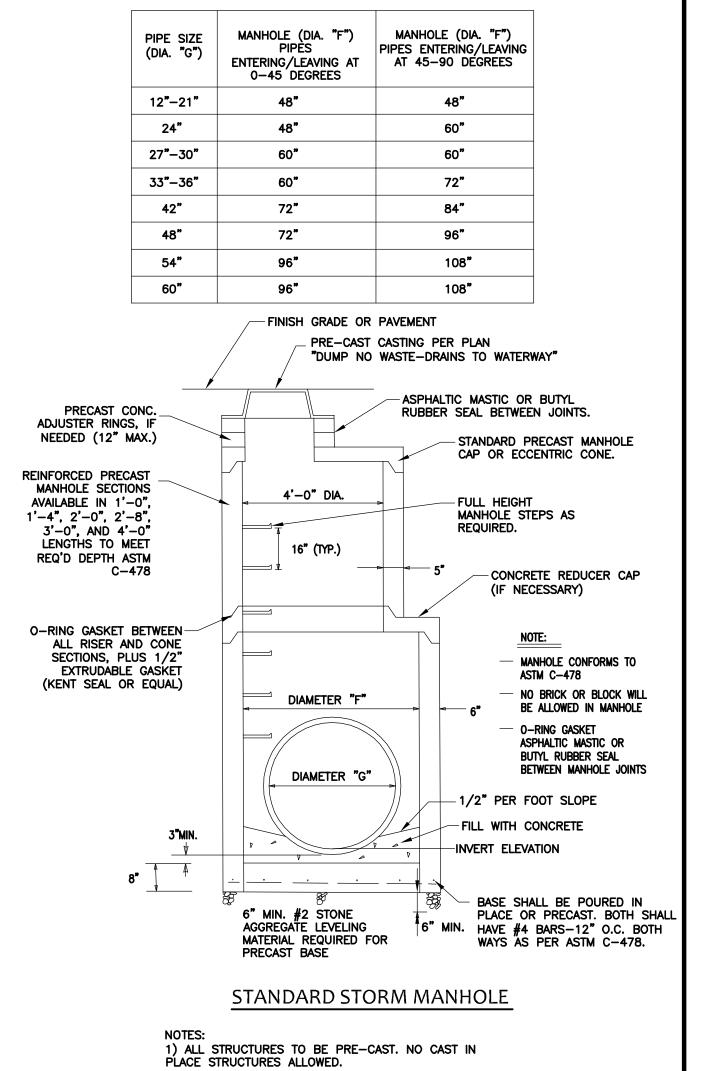
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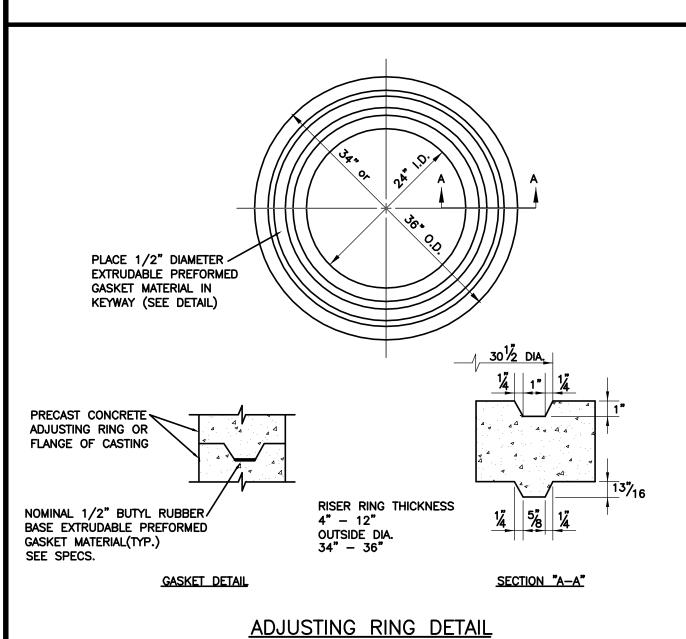


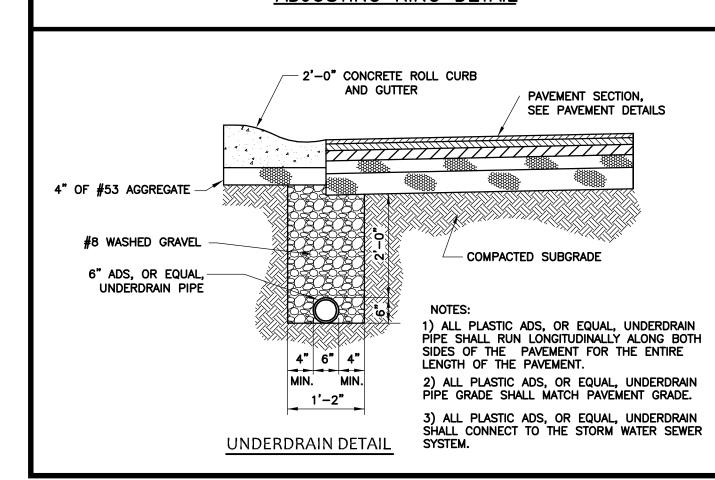
JOB NUMBER 20019.01

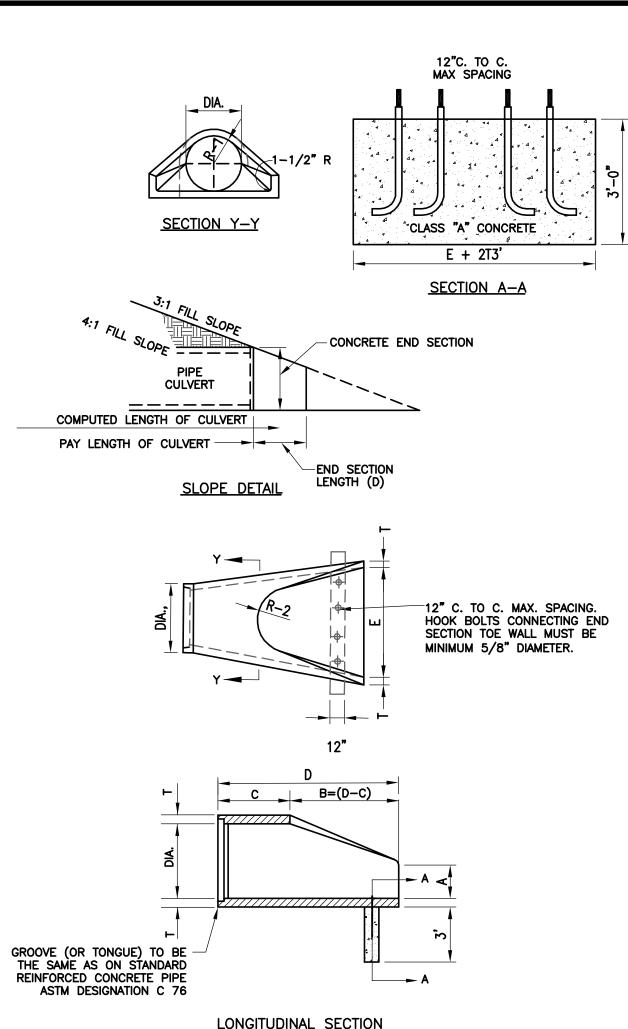
SHEET











DIA.	WALL	WT. SEC.	A	В	С	D	E	R-1	R-2	SKIRT
12	2	530	4	24	48 7/8	72 7/8	24	10 1/16	9	3 1/2
15	2 1/4	740	6	27	46	73	30	12 1/2	11	3 1/2
18	2 1/2	990	9	27	46	73	36	15 1/2	12	4
21	2 3/4	1280	9	35	38	73	42	16 1/8	13	4
24	3	1520	9 1/2	43 1/2	30	73 1/2	48	16 11/16	14	4 1/2
27	3 1/4	1930	10 1/2	48	25 1/2	73 1/2	54	17 3/4	14 1/2	4 1/2
30	3 1/2	2190	12	54	19 3/4	73 3/4	60	18 5/16	15	5
33	3 3/4	3150	13 1/2	58 1/2	39 1/4	97 3/4	66	23 3/4	17 1/2	5 1/2
36	4	4100	15	63	34 3/4	97 3/4	72	24 1/16	20	5 1/2
42	4 1/2	5380	21	63	35	98	78	27 1/4	22	5 1/2
48	5	6550	24	72	26	98	84	28 1/8	22	5 3/4
54	5 1/2	8040	27	65	35	100	90	32 7/8	24	6 1/4

NOTES:

CONCRETE IN THIS SECTION SHALL BE THE SAME GRADE AND STRENGTH AS SPECIFIED FOR REINFORCED CONCRETE PIPE, A.S.T.M. DESIGNATION C-76 CLASS 11 (AS SET OUT IN STANDARD SPECIFICATIONS).

REINFORCEMENT IN THE "C" PORTION SHALL BE THE SAME AS SPECIFIED FOR THE REINFORCED CONCRETE, A.S.T.M. DESIGNATION C-76 CLASS II FOR THE SIZE OF CONNECTION PIPE.

REINFORCEMENT IN THE "B" PORTION SHALL HAVE A CROSS SECTIONAL AREA EQUAL TO THAT OF ONE LAYER OF STEEL IN THE "C" PORTION.

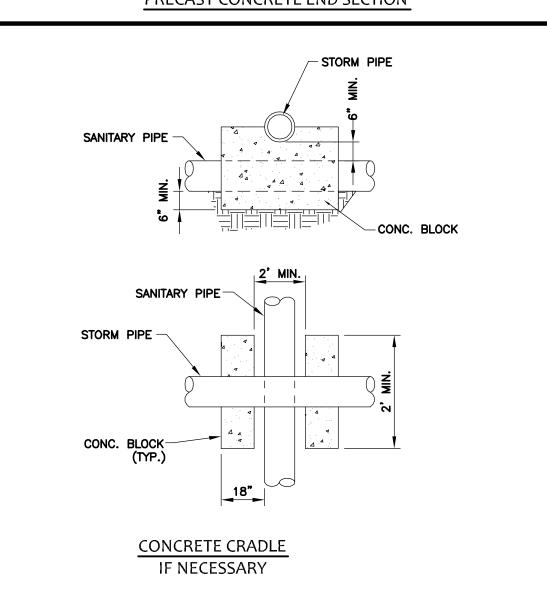
THE END OF THE PIPE CULVERT SHALL BE PLACED IN THE CONCRETE END SECTION SO THAT THE FLOW LINES ARE FLUSH. THE JOINT SHALL BE COMPLETELY FILLED WITH MORTAR.

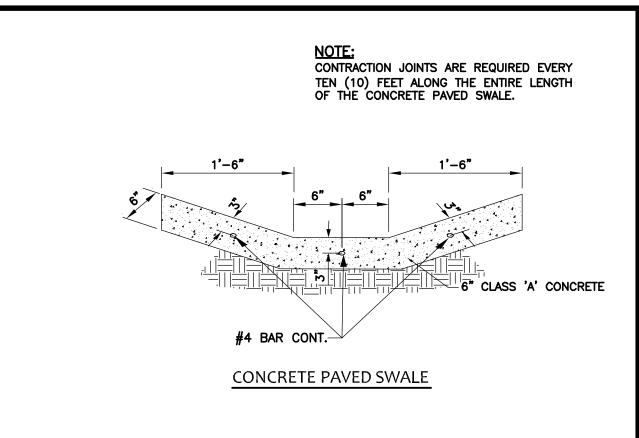
IN 3:1 OR 4:1 FILL SLOPE, CHANGE TO THE SLOPE OF THE END SECTION IN A SMOOTH, PLEASING TRANSITION APPROXIMATELY 10"-0" IN LENGTH.

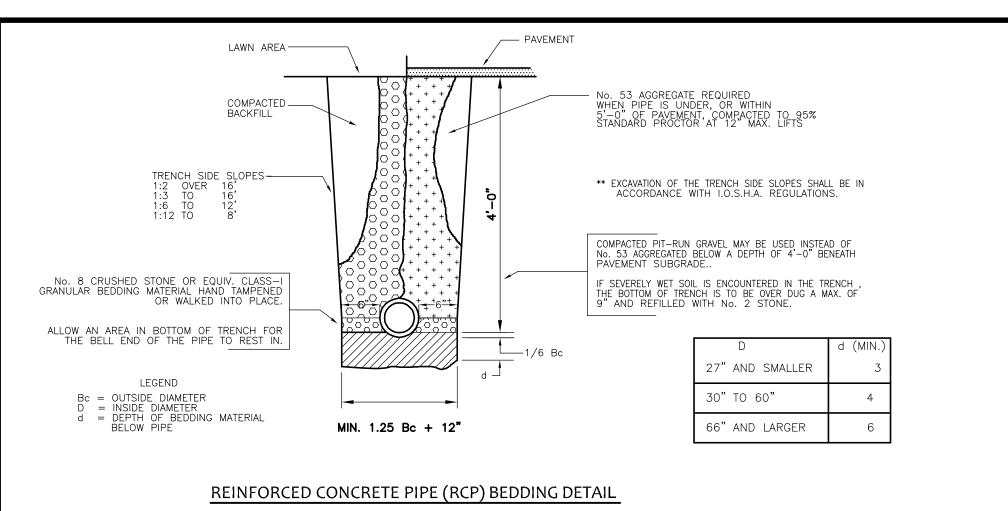
VARIATION IN DIMENSIONS - THE THICKNESS OF THE CONCRETE, THE POSITIONS OF STEEL, AND THE INTERNAL DIAMETER OF THE PIPE SHALL CONFORM WITH THE VARIATIONS IN DIMENSIONS AS PROVIDED IN THE SPECIFICATIONS FOR REINFORCED CONCRETE CULVERT, STORM DRAIN, AND SEWER PIPE, A.S.T.M. DESIGNATION C-76

CONCRETE PIPE TOE ANCHORS SHALL BE REQUIRED ON ALL CONCRETE PIPE END SECTIONS. HOOK BOLTS CONNECTING END SECTION TO TOE WALL MUST BE MINIMUM 5/8" DIAMETER.

PRECAST CONCRETE END SECTION

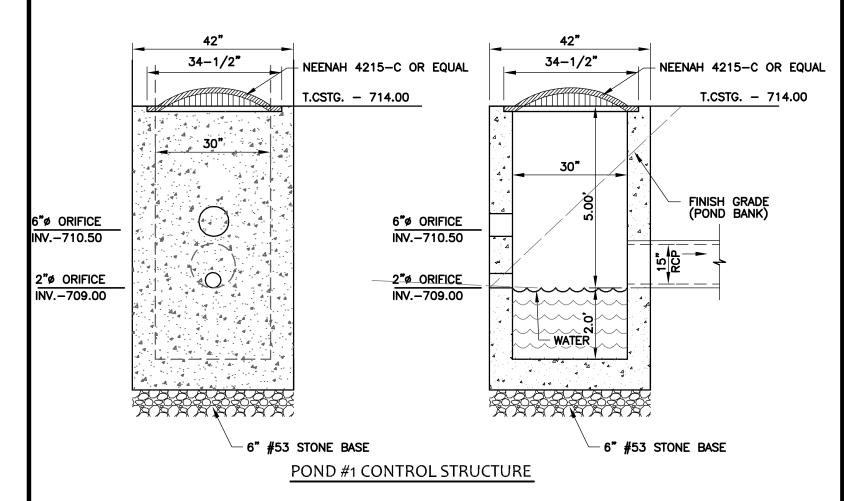


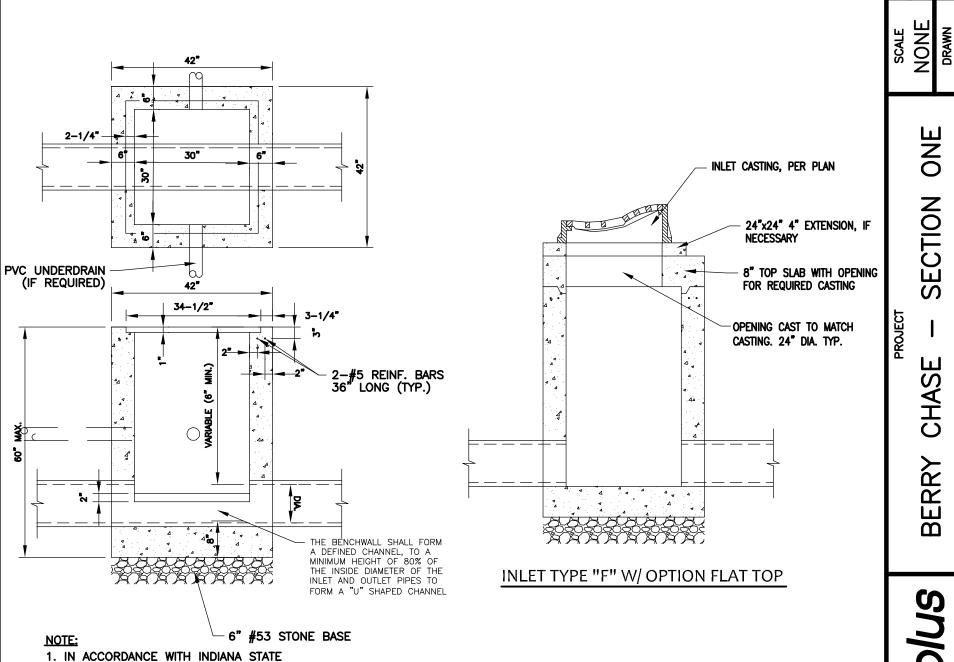


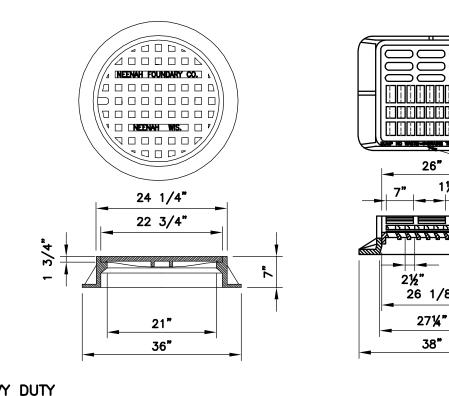


ADDITIONAL DETAILS REQUIRED:

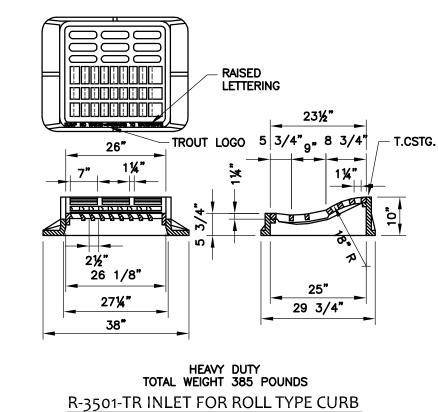
- 1. METAL END SECTION
- 2. DUAL INLETS (USED AT ALL SAGS SEE DETAIL ATTACHED TO COMMENT LETTER)
- 3. ARMOR AT EMERGENCY SPILLWAY (SEE DETAIL ATTACHED TO COMMENT LETTER)





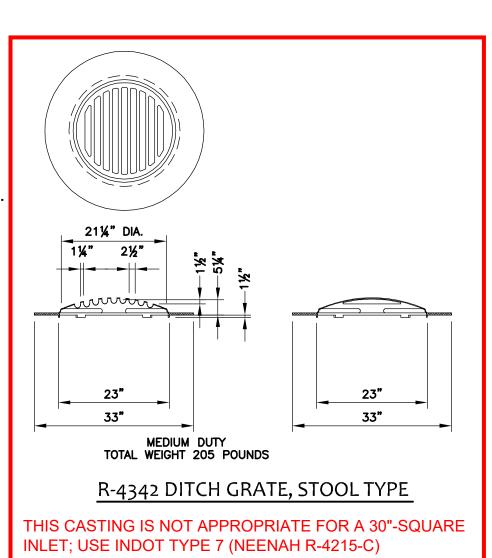


HEAVY DUTY
ALSO AVAILABLE WITH NON-ROCKING FEATURE.
ALSO FURNISHED WITH 34" DIAMETER FLANGE.



R-1772 MANHOLE FRAME, SOLID LID

CASTING NOTE:
ALL STORM CASTINGS ARE TO HAVE THE REQUIRED "NO DUMPING,
DRAINS TO STREAM" AND A SYMBOL OF A FISH CAST IN RAISED OR
RECESSED LETTER AT A HEIGHT OF 1" MINIMUM.

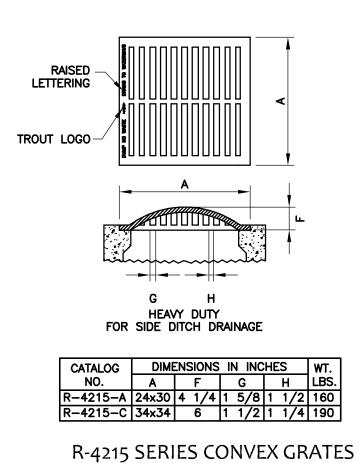


HIGHWAY SPECIFICATIONS.
2. MINIMUM CONCRETE COMPRESSIVE

3. PRECAST ADJUSTING SECTIONS AVAILABLE.

INLET TYPE "F"

STRENGTH 4000 P.S.I.



HES WT.

H LBS.

1 1/2 160

1 1/4 190

X

SEAL

LIFERY K. SMI

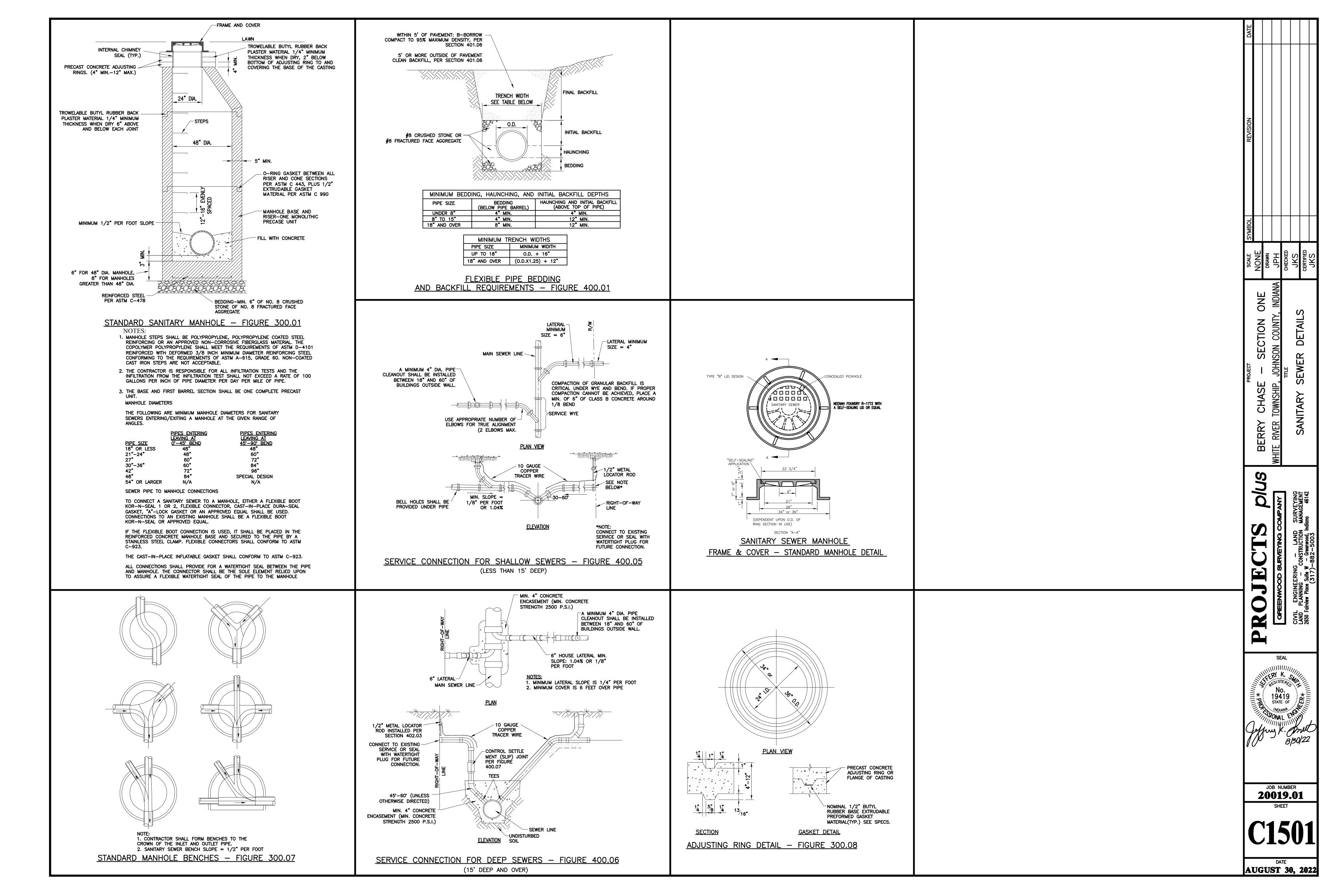
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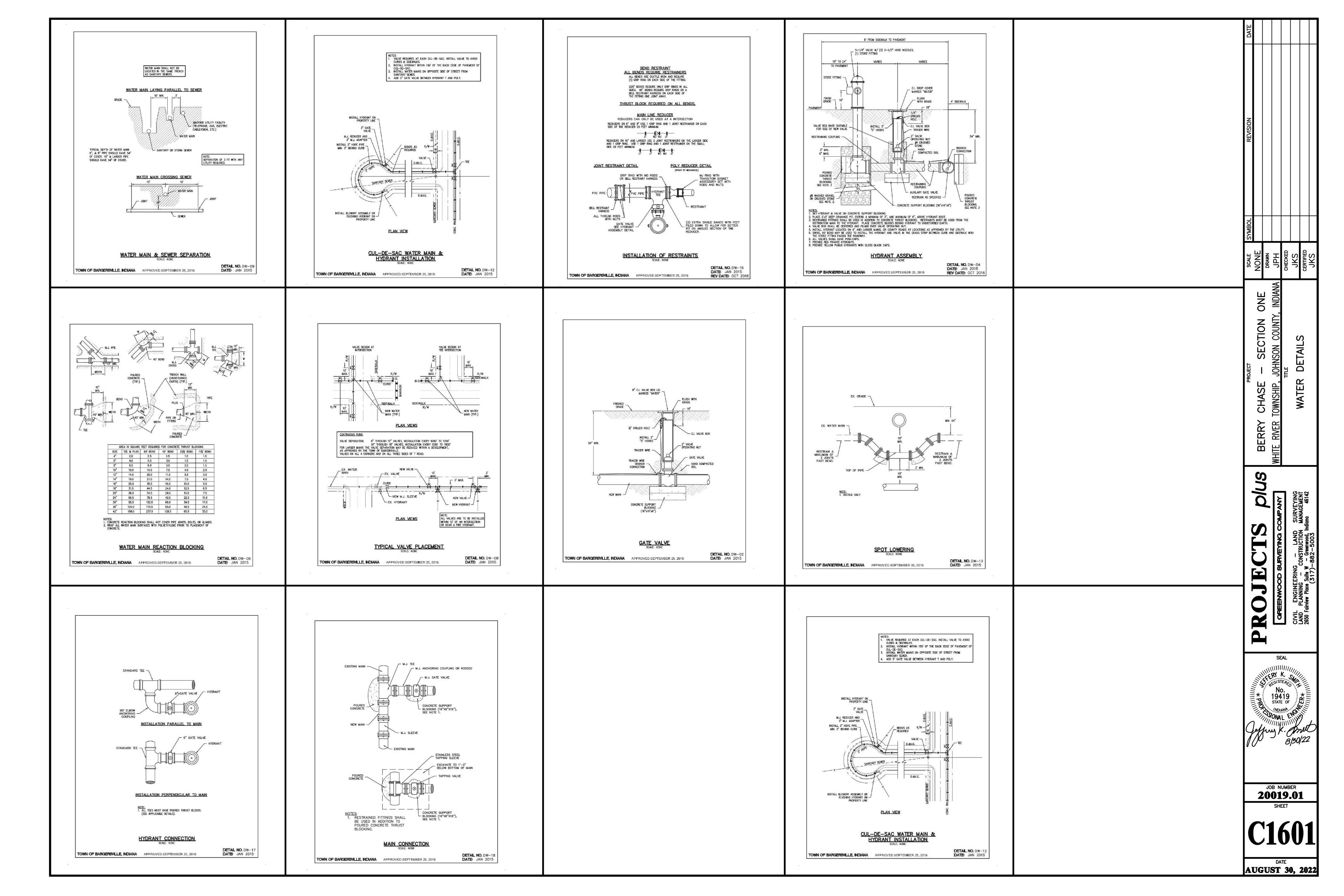
STATE OF

JOB NUMBER **20019.01**

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C1401





SITE WORK GENERAL NOTES AND SPECIFICATIONS

WHEREVER A CONFLICT OR DEFICIENCY OCCURS BETWEEN THE CONSTRUCTION STANDARDS AND SPECIFICATIONS ADOPTED BY THE JOHNSON COUNTY PLANNING AND HIGHWAY DEPARTMENTS. THE HIGHER OR MORE RESTRICTIVE STANDARD OR SPECIFICATION SHALL APPLY.

REFERENCE MATERIAL:

SUBDIVISION CONTROL AND LAND DEVELOPMENT ORDINANCE CHAPTER 102 OF JOHNSON COUNTY AS REVISED AND CURRENT I.N.D.O.T. STANDARD SPECIFICATIONS, AS REVISED.

STARTING CONSTRUCTION.

- THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING OR VERIFYING THAT ALL PERMITS AND APPROVALS ARE OBTAINED FROM THE RESPECTIVE CITY, COUNTY AND STATE AGENCIES PRIOR TO
- IT SHALL BE THE CONTRACTORS RESPONSIBILITY TO DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES IN THE VICINITY OF THE CONSTRUCTION AREA PRIOR TO STARTING ANY
- IT SHALL BE THE CONTRACTORS RESPONSIBILITY FOR NOTIFICATION AND COORDINATION OF ALL
- CONSTRUCTION WITH THE RESPECTIVE UTILITY COMPANIES, PRIOR TO STARTING ANY CONSTRUCTION IT SHALL BE THE RESPONSIBILITY OF THE DEVELOPER AND CONTRACTOR TO MAINTAIN QUALITY CONTROL THROUGHOUT THE PROJECT; FAILURE TO DO SO MAY RESULT IN REMOVAL AND REPLACEMENT OF THE DEFECTIVE WORK. IT IS RECOMMENDED THAT THE DEVELOPER HAVE A
- QUALIFIED INSPECTOR ON THE JOB SITE AT ALL TIMES DURING CONSTRUCTION. IT IS ESSENTIAL THAT THE WORK TO BE DONE IN CONJUNCTION WITH THIS PROJECT SHALL BE INSTALLED ACCORDING TO THESE SPECIFICATIONS. THE ENGINEER WILL BE REQUIRED TO CERTIFY TO CERTAIN PORTIONS OF THIS PROJECT UPON COMPLETION. THEREFORE, IT IS NECESSARY TO OBTAIN APPROVAL AND ACCEPTANCE BY THE JOHNSON COUNTY PLANNING AND HIGHWAY DEPT. THAT CONSTRUCTION WAS DONE IN COMPLIANCE WITH THESE PLANS AND SPECIFICATIONS.

- CLEARING AND GRUBBING SHALL CONSIST OF CUTTING, REMOVAL AND SATISFACTORY DISPOSAL OF ALL TREES, DOWN TIMBER, BRUSH, PROJECTING ROOTS, STUMPS, RUBBISH, BOULDERS, BROKEN CONCRETE, FENCING (AS DESIGNATED) AND OTHER MATERIAL ON THE PROJECT SITE AND WITHIN THE BOUNDARY AS SHOWN ON THE CONSTRUCTION DOCUMENTS AND/OR AS DESIGNATED BY
- SPECIAL CARE SHALL BE TAKEN TO INSURE THAT TREES TO BE LEFT REMAINING IN THE PROJECT AREA SHALL NOT RECEIVE LIMB, BARK OR ROOT INJURIES. WHEN SUCH INJURIES OCCUR, ALL ROUGH EDGES OF SCARRED AREAS SHALL BE REMOVED IN ACCORDANCE WITH ACCEPTED HORTICULTURAL PRACTICE AND THE SCARS COATED THOROUGHLY WITH AN ASPHALTIC BASE TREE
- ALL "UNSUITABLE MATERIAL" FROM CLEARING OPERATIONS STATED IN ITEM B-1 SHALL BE REMOVED TO DISPOSAL AREA(S) OFF OF THE PROJECT SITE.
- MATERIALS SHALL NOT BE DISPOSED OF BY BURNING UNLESS APPROVED BY THE LOCAL FIRE

TREE REMOVAL AND PROTECTION

- TREES SHALL BE REMOVED FROM THE PROJECT SITE ONLY WHERE THE AREA IS TO BE OCCUPIED BY ROAD AND SURFACED AREAS IN ACCORDANCE WITH SPECIFICATIONS OF THE JOHNSON COUNTY PLANNING AND HIGHWAY DEPARTMENTS PLANNING
- TREES SHALL BE REMOVED FROM THE PROJECT SITE AS DIRECTED BY THE DEVELOPER AND SO trees shall be removed from the project site where they interfere directly with thi PLACEMENT OF STORM OR SANITARY SEWERS AND THAT SUCH EXCAVATION IS OR WILL BE FATAL TO
- THE CONTRACTOR SHALL ENDEAVOR TO SAVE AND PROTECT TREES OF VALUE AND WORTH WHICH DO NOT IMPAIR CONSTRUCTION OF IMPROVEMENTS AS DESIGNATED. IN THE EVENT CUT OR FILL EXCEEDS 0.5 FOOT OVER THE ROOT AREA, THE DEVELOPER SHALL BE CONSULTED WITH RESPECT TO
- PROTECTIVE MEASURES TO BE TAKEN, IF ANY, TO PRESERVE SUCH TREES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING THE METHOD FOR 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 adjacent work is started. Earth or material and equipment shall NOT BE STOCKPILED OR STORED WITHIN THE SPREAD OF BRANCHES. BRANCHES WHICH NEED TO BE REMOVED OR ARE BROKEN SHALL BE NEATLY TRIMMED AND SCARS SHALL BE COVERED WITH TREE

- THE CONTRACTOR SHALL VERIFY THAT ALL TOPSOIL HAS BEEN REMOVED IN THE AREAS TO BE OCCUPIED BY ROAD, WALKS AND DESIGNATED BUILDING AREAS. TOPSOIL SHALL BE REMOVED TO A DEPTH OF SIX (6) INCHES OR DEEPER, IF NECESSARY, TO REMOVE VEGETABLE MATTER WHERE
- TOPSOIL SHALL BE KEPT SEPARATED FROM SUITABLE FILL MATERIALS AND SHALL NOT BE USED AS FILL UNDER PAVEMENT AND/OR BUILDING AREAS.
- TOPSOIL SHALL BE STORED AT A LOCATION WHERE IT DOES NOT INTERFERE WITH CONSTRUCTION OPERATIONS. EXCESS TOPSOIL SHALL BE USED FOR FINISH GRADING OF SITE, OF DRAINAGE SWALES, YARDS OF NEW RESIDENCES, BUFFER STRIPS, ETC.
- TOPSOIL SHALL BE REASONABLY FREE FROM SUBSOILS DEBRIS AND STONES.

TEST RESULTS SHALL BE SUBMITTED TO PROJECTS PLUS.

- THE CONTRACTOR SHALL PERFORM ALL GRADING OPERATIONS TO BRING SUBGRADES, AFTER FINAL
- COMPACTION, TO THE REQUIRED GRADES AND SECTIONS FOR SITE IMPROVEMENT. SUBGRADE SHALL BE PROOF ROLLED WITH SUITABLE EQUIPMENT AND ALL SPONGY AND OTHERWISE UNSUITABLE MATERIAL SHALL BE REMOVED AND REPLACED WITH SUITABLE MATERIAL.
- SUBGRADE SHALL BE PREPARED IN COMPLIANCE WITH SECTION 207 OF THE CURRENT I.N.D.O.T. STANDARD SPECIFICATIONS, AS REVISED, FOR ALL AREAS OF STREET CONSTRUCTION.
- ALL FILL MATERIAL SHALL BE FORMED FROM SOIL FREE OF DELETERIOUS MATERIAL. PRIOR TO PLACEMENT OF FILL A SAMPLE OF THE PROPOSED FILL MATERIAL SHOULD BE SUBMITTED TO A SOILS ENGINEER FOR HIS APPROVAL AND COPIES OF THE SOLID PROCTORS SHALL BE SUBMITTED
- ALL FILLS IN EXCESS OF TWO (2) FEET SHALL BE CONSIDERED AS STRUCTURAL FILLS AND AS SUCH SHALL BE COMPACTED IN SIX INCH LIFTS WITH COMPACTION TESTS FOR EACH LIFT. COMPACTION FOR ALL STRUCTURAL FILL AREAS SHALL BE 95 PERCENT STANDARD PROCTOR AND
- ALL FILL MATERIAL IN AREAS OUTSIDE OF BUILDING AND PAVEMENT AREAS SHALL BE COMPACTED LIGHTLY AND PROTECTED FROM EROSION BY ONE OR MORE OF THE METHODS OF ITEM G. ALL AREAS WHERE BUILDING AND PAVEMENT CONSTRUCTION IS FEASIBLE SHALL NOT HAVE UNSUITABLE MATERIAL PLACED IN THAT LOCATION, AND FILL SHALL BE COMPACTED TO 95% STANDARD PROCTOR

STANDARD SANITARY SEWER CONSTRUCTION

SHALL CONFORM TO AWWA C900, DR14.

- CURRENT CITIZENS ENERGY GROUP SPECIFICATIONS (CITY OF GREENWOOD SANITATION), COUNTY AND STATE SPECIFICATIONS SHALL PREVAIL AS TO MATERIALS AND METHODS OF CONSTRUCTION. (I.N.D.O.T. SPECIFICATIONS, SECTION 715-CULVERTS, STORM AND SANITARY SEWERS)
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING OR VERIFYING ALL PERMITS FOR ALL OR PORTIONS OF THIS PROJECT PRIOR TO STARTING ANY CONSTRUCTION.
- SANITARY SEWERS SHALL BE INSTALLED IN ACCORDANCE WITH 327 IAC 3-6-18 TECHNICAL STANDARDS FOR SANITARY COLLECTION SYSTEMS, AND DEPARTMENT OF ENVIRONMENTAL MANAGEMENT AND PERMITS SHALL BE OBTAINED PRIOR TO STARTING AND CONSTRUCTION.
- SANITARY SEWERS SHOWN ON THE CONSTRUCTION PLANS WERE DESIGNED WITH POLY-VINYL CHLORIDE PIPE IN ACCORDANCE WITH A.S.T.M. D-3034, S.D.R.-35 FOR PIPES THAT ARE 15 INCH IN DIAMETER OR LESS AND ARE LESS THAN 15 FEET DEEP. PVC PIPE AND FITTINGS THAT ARE 18 INCH AND GREATER IN DIAMETER SHALL CONFORM TO A.S.T.M. F-679 (T-1). ALL SANITARY PIPES GREATER THAN 15 FEET DEEP SHALL BE RATED AS HEAVY WALL S.D.R.-26. ALL FITTINGS REGARDLESS OF DEPTH SHALL BE NOTED AS HEAVY WALL S.D.R.-26. SANITARY SEWER FORCEMAIN
- SANITARY MANHOLES SHALL BE PRECAST CONCRETE IN ACCORDANCE WITH A.S.T.M. C-478. ALL JOINTS AND LIFTING HOLES ON THE EXTERIOR, SHALL BE SEALED WITH NON-SHRINK GROUT.
- INTERIOR LIFT HOLES PROHIBITED. CASTINGS SHALL BE OF TYPE AND KIND AS SHOWN ON THE DETAIL SHEET.
- PLASTIC SANITARY SEWERS SHALL BE MARKED FOR EASY IDENTIFICATION.
- WATER AND SEWER LINE CROSSINGS AND SEPARATIONS SHALL BE IN ACCORDANCE WITH TEN STATES STANDARDS AND LOCAL CODES.
- a. WHERE WATER LINES AND SEWER LINES CROSS AND THE WATER LINE CANNOT BE PLACED ABOVE THE SEWER LINE A MINIMUM OF 18" WITH A MINIMUM COVER OF 48", THE SEWER LINE SHALL BE CONSTRUCTED OF WATERWORKS
- b. WHERE WATER LINES AND SANITARY SEWER LINES RUN PARALLEL WITH ONE ANOTHER, A MINIMUM OF 10' HORIZONTAL SEPARATION SHALL BE MAINTAINED.

GRADE CAST IRON PIPE WITH MECHANICAL JOINTS.

- ALL FUTURE SEWER INSTALLATION, EITHER CONNECTED TO OR EXTENDED FROM THIS SYSTEM, SHALL BE CONSTRUCTED IN ACCORDANCE WITH THESE SPECIFICATIONS.
- D. NO ROOF DRAINS, FOOTING DRAINS, AND/OR SURFACE WATER DRAINS MAY BE CONNECTED TO THE SANITARY SEWER SYSTEMS, INCLUDING TEMPORARY CONNECTIONS DURING CONSTRUCTION, INCLUDING
- 1. BUILDINGS SHALL BE SERVICED BY A 6" MINIMUM SANITARY SEWER LATERAL. THE ENDS SHALL BE PLUGGED AND SEALED WITH A WATER TIGHT PLASTIC DISC. WYES ARE TO BE TILTED UP TO 45 DEGREES FROM THE HORIZONTAL. WITH SUITABLE FITTINGS FOR ALL CHANGES IN DIRECTION. IF 6" PVC LATERALS ARE USED, THEY SHALL BE IN ACCORDANCE WITH A.S.T.M. D-3034 AND A.S.T.M. D-2321 FOR PROPER INSTALLATION. MAGNETIC TAPE LOCATOR SHALL BE PLACED AT THE END OF EACH LATERAL TO IDENTIFY THE LOCATION OF THE LATERAL.

- 12. THE CONTRACTOR SHALL PROVIDE PROJECTS PLUS WITH "AS-BUILT" LATERAL LOCATIONS.
- 13. MANHOLE SECTIONS SHALL HAVE "O" RINGS WHICH SHALL MEET A.S.T.M. C-433. 14. MANHOLE WATERSTOPS SHALL BE INSTALLED AT ALL
- CONNECTIONS TO MANHOLES, WHERE FLEXIBLE TYPE MANHOLE CONNECTIONS ARE NOT USED.
- 15. ALL PRECAST MANHOLES SHALL BE BEDDED ON A GRANULAR FOUNDATION.
- 16. THE CONTRACTOR SHALL REMOVE BY PUMPING OR OTHER SUITABLE METHODS ANY WATER WHICH MAY ACCUMULATE IN
- 17. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL TESTS FOR LEAKAGE, INFILTRATION AND DEFLECTION AS ESTABLISHED BY THE CITY OF GREENWOOD, I.D.E.M. AND THE STATE
 BOARD OF HEALTH, AND THE SANITARY SEWER CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING CERTIFIED TESTS RESULTS TO THE ENGINEER. ANY PORTIONS NOT PASSING SAID TESTS FOR ACCEPTANCE SHALL BE REPAIRED OR REPLACED AT THE SANITARY SEWER CONTRACTORS EXPENSE, INCLUDING RE-EXCAVATION AND BACKFILL.
- a. DEFLECTION TEST
- 1a. DEFLECTION TESTS SHALL BE PERFORMED ON ALL FLEXIBLE PIPE. THE TEST SHALL BE CONDUCTED AFTER THE FINAL BACKFILL HAS BEEN IN PLACE AT LEAST 30 DAYS TO PERMIT STABILIZATION OF THE SOIL-PIPE SYSTEM.
- 1b. NO PIPE SHALL EXCEED A DEFLECTION OF 5 PERCENT. IF DEFLECTION EXCEEDS 5 PERCENT, REPLACEMENT OR CORRECTION SHALL BE ACCOMPLISHED IN ACCORDANCE WITH REQUIREMENTS IN THE APPROVED SPECIFICATIONS.
- 1c. THE RIGID BALL OR MANDREL USED FOR THE DEFLECTION TEST SHALL HAVE A DIAMETER NOT LESS THAN 95 PERCENT OF THE BASE INSIDE DIAMETER OR AVERAGE INSIDE DIAMETER OF THE PIPE DEPENDING ON WHICH IS SPECIFIED IN THE ASTM SPECIFICATION, INCLUDING THE APPENDIX, TO WHICH THE PIPE IS MANUFACTURED. THE TEST SHALL BE PERFORMED WITHOUT MECHANICAL PULLING DEVICES.

- 1a. THE AIR TEST SHALL, AS A MINIMUM, CONFORM TO THE TEST PROCEDURE DESCRIBED IN ASTM C-828 FOR CLAY PIPE ASTM C 924 FOR CONCRETE PIPE, ASTM F-1417 FOR PLASTIC PIPE, AND FOR OTHER MATERIALS TEST PROCEDURES APPROVED BY THE REGULATORY AGENCY.
- 1b. FOR AIR TESTING, EACH END OF THE SECTION OF PIPE TO BE TESTED SHALL BE PLUGGED WITH AIR TEST STOPPERS FURNISHED BY THE CONTRACTOR. AIR SHALL SLOWLY BE SUPPLIED TO THE PLUGGED PIPE INSTALLATION BY AN AIR COMPRESSOR, FURNISHED BY THE CONTRACTOR, UNTIL PRESSURE REACHES 4.0 PSI. IF GROUNDWATER ELEVATION IS ABOVE INVERT OF SEWER BEING TESTED, AN ADDITIONAL 1.0 PSI OF AIR PRESSURE SHALL BE ADDED FOR EACH 2.3 FEET OF WATER ABOVE THE INVERT OF THE SEWER. AT LEAST TWO MINUTES SHALL BE ALLOWED FOR THE AIR TEMPERATURE TO
- THE RATE OF AIR LOSS SHALL THEN BE DETERMINED BY MEASURING THE TIME INTERVAL REQUIRED FOR PRESSURE TO DECREASE FROM 3.5 TO 2.5 PSI. THE PRESSURE GAUGE AND STOP WATCH WILL BE FURNISHED BY THE
- 1c. THE PIPELINE SHALL BE CONSIDERED ACCEPTABLE WHEN TESTED AT AN AVERAGE PRESSURE OF 3.0 PSI IF (1) THE TOTAL RATE OF AIR LOSS FROM ANY SECTION TESTED IN ITS ENTIRETY BETWEEN MANHOLE AND CLEANOUT STRUCTURE DOES NOT EXCEED 2.0 CFM, OR (2) THE SECTION UNDER TEST DOES NOT LOSE AIR AT A RATE GREATER THAN 0.0030 CFM PER SQUARE FOOT OF INTERNAL PIPE SURFACE.
- 1d. THE REQUIREMENTS OF THIS SPECIFICATION SHALL BE CONSIDERED SATISFIED IF THE TIME REQUIRED IN SECONDS FOR THE PRESSURE TO DECREASE FROM 3.5 TO 2.5 PSI IS NOT

PIPE	мімімим	LENGTH FOR	TIME FOR	SF	PECIFICAT	ION TIME	FOR LEI	NGTH (L)	SHOWN,	MIN;S	
DIAMETER in.	TIME MINUS.	MINIMUM TIME FT.	LONGER LENGTHS	100 FT.	150 FT.	200 FT.	250 FT.	300 FT.	350 FT.	400 FT.	450 FT.
4	3:48	597	0.380	3:48	3:48	3:48	3:48	3:48	3:48	3:48	3:48
6	5:40	388	0.854	5:40	5:40	5:40	5:40	5:40	5:40	5:42	6:24
8	7:34	298	1.520	7:34	7:34	7:34	7:34	7:34	8:52	10:06	11:24
10	8:26	239	2.374	8:26	8:26	8:26	8:53	11:52	13:51	15:49	17:48
12	11:20	199	3.418	11:20	11:24	11:24	14:15	17:06	19:56	22:47	25:38
16	14:10	159	5.342	14:10	14:10	17:48	22:15	28:42	31:09	35:38	40:04
18	17:00	133	7.892	17:00	19:18	25:38	32.:03	38:27	44:62	51:16	57:41
21	19:50	114	10.470	19:50	26:10	34:54	43:37	52:21	61:00	69:48	78:31
24	22:40	99	13.674	22:47	34:11	48:34	56:58	68:22	79:46	81:10	102:33
27	26:30	88	17.808	28:51	43:16	57:41	72:07	86:32	100:57	115:22	129:48
30	28:20	80	21.366	35:37	58:25	71:13	89:02	106:50	124:38	142:26	160:16
33	31:10	72	26.852	48:05	64:38	86:10	107:43	128:16	150:43	172:21	193:53
36	34:00	68	30.768	51:17	78:66	102:34	128:12	163:50	179:29	205:07	210:46

1e. FOR EXFILTRATION TEST, THE INLET END OF THE UPSTREAM AND DOWNSTREAM MANHOLES SHALL BE CLOSED WITH WATERTIGHT BULKHEADS. THEN THE SEWER AND THE UPSTREAM MANHOLE SHALL BE FILLED WITH WATER UNTIL THE ELEVATION OF WATER IN THE UPSTREAM MANHOLE IS TWO FEET HIGHER THAN THE TOP OF THE PIPE IN THE LINE BEING TESTED, OR TWO FEET ABOVE THE EXISTING GROUND WATER IN THE TRENCH, WHICHEVER IS THE HIGHER ELEVATION. THE EXFILTRATION WILL BE MEASURED BY DETERMINING THE AMOUNT OF WATER REQUIRED TO MAINTAIN THE INITIAL WATER ELEVATION FOR ONE HOUR FROM THE START OF THE TEST. LESS THAN SHOWN IN THE "ALLOWABLE TIME TABLE".

c. SANITARY MANHOLE VACUUM TESTING

MANHOLE

ALL MANHOLE VACUUM TESTS SHALL BE CONDUCTED IN THE PRESENCE OF A REPRESENTATIVE OF THE DPW.

ALL MANHOLES SHALL BE AIR TESTED IN ACCORDANCE WITH ASTM C1244-93. STANDARD TEST METHOD FOR CONCRETE SEWER MANHOLES BY THE NEGATIVE AIR PRESSURE (VACUUM) TEST.

THE VACUUM TEST EQUIPMENT SHALL CONSIST OF: INFLATABLE PLUGS FOR ALL INCOMING AND OUTGOING SEWER LINES; AN INFLATABLE TEST COLLAR TO SEAL THE MANHOLE AT THE MANHOLE FRAME: AND A VACUUM PUMP. A VACUUM GAUGE SHALL BE LOCATED IN—LINE BETWEEN THE TEST COLLAR AND THE PUMP TO CCURATELY INDICATE THE VACUUM IN INCHES OF MERCURY WITHIN THE MANHOLE. THE VACUUM GAUGE SHALL HAVE A RANGE TO NO MORE THAN THIRTY (30) INCHES OF MERCURY, WITH SCALE MARKINGS OF NO GREATER THAN ONE-HALF (1/2) INCH OF MERCURY VACUUM AND AN ACCURACY TO WITHIN ± TWO PERCENT (2%) OF TRUE VACUUM.

THE VACUUM TEST SHALL BE CONDUCTED BY PLUGGING ALL INCOMING AND OUTGOING SEWER LINES IN THE MANHOLE AT A LOCATION BEYOND THE CONNECTION OF THE SEWER PIPE WITH THE MANHOLE. ALL PLUGS SHALL BE BLOCKED IN PLACE SO AS NOT TO MOVE DURING THE TEST. THE VACUUM TESTING COLLAR SHALL BE INFLATED IN THE FRAME IN ACCORDANCE WITH THE EQUIPMENT MANUFACTURER'S RECOMMENDATIONS. A VACUUM OF TEN (10) INCHES OF MERCURY SHALL BE DRAWN AND THE VACUUM PUMP TURNED OFF AND THE VALVE BETWEEN THE VACUUM PUMP AND THE VACUUM GAUGE SHALL BE TURNED OFF.

THE TIME PERIOD WHICH IS TAKEN FOR THE VACUUM TO FALL FROM TEN INCHES (10") OF MERCURY TO NINE INCHES (9") OF MERCURY SHALL BE DETERMINED. IF THE TIME TAKEN FOR THE VACUUM TO REDUCE THE TEN INCHES (10") OF MERCURY TO NINE INCHES (9") OF MERCURY IS LESS THAN THE TIME INDICATED IN THE FOLLOWING TABLE. THEN THE MANHOLE WORK SHALL BE CONSIDERED NOT ACCEPTABLE AND SHALL BE REJECTED. IF THE TIME IS EQUAL TO OR EXCEEDS THE TIME INDICATED BELOW, THE MANHOLE WORK SHALL BE ACCEPTED.

DEPTH (FT.) TIME (SEC) DIAMETER=

FOR EACH ADDITIONAL 2' ADD: 5

CONTRACTOR SHALL SUBMIT TO THE ENGINEER THE RESULTS OF EACH MANHOLE VACUUM TEST. SUCH REPORTS SHALL INCLUDE A DESCRIPTION OF THE LOCATION OF THE MANHOLE, THE TIME, DATE AND WEATHER OF THE TEST, A LIST OF ALL PERSONS PRESENT, THE DIAMETER AND DEPTH OF THE MANHOLE AND THE ALLOWABLE TEST RESULTS, AND THE ACTUAL TEST

- ALL MANHOLES SHALL BE REPAIRED BY CONTRACTOR AND RETESTED AS DESCRIBED ABOVE UNTIL A SUCCESSFUL TEST IS MADE. AFTER EACH TEST, THE TEMPORARY PLUGS SHALL BE REMOVED.
- 19. PIPE SHALL BE LAID IN OPEN TRENCHES, EXCEPT WHEN CONDITIONS REQUIRE AND THE APPROPRIATE APPROVING AGENCIES GIVE WRITTEN PERMISSION FOR TUNNELING OR
- JACKING OF PIPE. 20. TRENCH SHALL BE OPENED SUFFICIENTLY AHEAD OF PIPE LAYING TO REVEAL OBSTRUCTIONS AND SHALL BE PROPERLY
- PROTECTED AND/OR BARRICADED WHEN LEFT UNATTENDED. 21. TRENCHES SHALL BE SHEETED AND BRACED AS NECESSARY TO PROTECT WORKMEN AND ADJACENT STRUCTURES. ALL TRENCHING SHALL BE DONE IN ACCORDANCE WITH I.O.S.H.A.
- STANDARDS TO PROTECT WORKMEN. 22. THE FLOW CHANNELS FOR THE SANITARY SEWER MANHOLES SHALL BE U-SHAPED WITH THE BENCHWALLS EXTENDING TO THE CROWN OF THE INCOMING AND OUTGOING PIPES. CHANGES IN SIZE AND GRADE SHALL BE MADE BY SMOOTH TRUE CURVES FOR ALL CONNECTING SEWERS AT EACH
- 23. NUMBER 53 STONE BACKFILL SHALL BE REQUIRED UNDER ALL PAVEMENT AREAS AND WITHIN 5' OF THE EDGE OF PAVEMENT.
- 24. ALL TRENCHES UNDER PAVEMENT SHALL BE COMPACTED TO 95% STANDARD PROCTOR.
- 25. THE MINIMUM CELL CLASSIFICATION FOR P.V.C. SHALL BE 12454B OR C PER A.S.T.M. STANDARDS 26. ALL GRAVITY AND FORCEMAIN PIPE SHALL BE INSTALLED WITH BELL END OF THE PIPE AT THE UPSTREAM SIDE
- 27. ALL FORCEMAIN SHALL BE HYDROSTATICALLY TESTED. THE FORCEMAIN TEST SECTION SHALL BE SLOWLY FILLED WITH WATER AND PRESSURIZED TO A TEST PRESSURE 50 HIGHER THAN NORMAL OPERATING PRESSURE. THE TEST DURATION SHALL BE A MINIMUM OF TWO (2) HOURS. SUITABLE MEANS SHALL BE PROVIDED BY THE CONTRACTOR FOR DETERMINING WATER LOST BY LEAKAGE UNDER THE TEST PRESSURE. NO PIPE INSTALLATION WILL BE ACCEPTED UNTIL OR UNLESS THIS LEAKAGE IS LESS THEN TEN (10) GALLONS PER INCH OF PIPE DIAMETER PER MILE OF PIPE PER DAY, AT THE DESIGNATED TEST

OF FLOW OR AT THE END IN WHICH THE FIRST

RECEIVES THE FLOW.

28. THE CITY OF GREENWOOD SHALL BE NOTIFIED IN ADVANCED OF ALL SANITARY SEWER TESTING.

1. THE CONTRACTOR SHALL PROVIDE ADEQUATE EROSION PROTECTION MEASURES DURING AND AFTER

- 2. SPECIFIC EROSION CONTROL MEASURES SHALL BE IMPLEMENTED AND INSTALLED PER THE STORM WATER POLLUTION PREVENTION PLAN (SWPPP) INCLUDED IN THESE CONSTRUCTION PLANS. 3. DETAILS AND PLACEMENT SPECIFICATIONS FOR THE ABOVE ITEMS ARE AVAILABLE ON REQUEST FROM THE
- 4. ALL EROSION CONTROL PRACTICES SHALL BE IN ACCORDANCE WITH THE INDIANA STORM WATER QUALITY MANUAL DATED OCTOBER 2007.

1. STORM SEWER STRUCTURES SHALL COMPLY WITH CURRENT SPECIFICATIONS OF THE JOHNSON COUNT LANNING AND HIGHWAY DEPARTMENTS ALL OTHER RESPONSIBLE AGENCIES IN RESPECT TO DESIGN AND QUALITY

2. ALL STORM SEWER CONSTRUCTION INSIDE PUBLIC RIGHT-OF-WAY, EITHER EXISTING OR TO BE DEDICATED, SHALL BE IN ACCORDANCE WITH CURRENT I.N.D.O.T. STANDARD SPECIFICATIONS, AS REVISED.

3. WHERE REINFORCED CONCRETE PIPE IS SHOWN ON THE CONSTRUCTION PLANS, IT SHALL BE IN ACCORDANCE WITH A.S.T.M. C-76 TYPE III WALL "B" UNLESS OTHERWISE SPECIFIED ON THE PLANS. 4. MANHOLES, CATCH BASINS AND INLETS SHALL BE PRECAST CONCRETE. USE OF BRICK OR BLOCK WILL NOT BE PERMITTED UNLESS AUTHORIZED IN WRITING BY THE ENGINEER AND APPROVED IN WRITING BY THE JOHNSON

- COUNTY PLANNING AND HIGHWAY DEPARTMENTS DRAINAGE SECTION PRIOR TO CONSTRUCTION. a. IF THE CONTRACTOR ELECTS TO USE ALTERNATE PRECAST STRUCTURES, HE SHALL SUBMIT SHOP DRAWINGS TO THE ENGINEER PRIOR TO ANY CONSTRUCTION. 5. PRECAST CONCRETE AND STEEL FOR MANHOLES AND INLETS SHALL BE IN ACCORDANCE WITH A.S.T.M.
- 6. CASTINGS SHALL BE AS SHOWN ON THE DETAIL SHEET(S) FOR MANUFACTURER, TYPE AND MODEL NUMBER. 7. NUMBER 53 STONE BACKFILL SHALL BE REQUIRED UNDER ALL PAVEMENT AREAS AND TRENCHES WITHIN FIVE (5) FEET OF THE EDGE OF PAVEMENT.
- 8. ALL TRENCHES UNDER PAVEMENT SHALL BE COMPACTED TO 95 PERCENT STANDARD PROCTOR.

 WATER SERVICE a. ALL MAIN WATER LINES SHALL BE DESIGNED AND INSTALLED IN ACCORDANCE WITH THE BARGERSVILLE UTILITIES (UTILITY DEPT.) AND COORDINATION OF CONSTRUCTION OF THESE MAINS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR AND SHALL BE COORDINATED PRIOR TO STARTING ANY CONSTRUCTION. b. Installation and materials for all water main construction shall meet the bargersville utilities AND 327 IAC 3-6-20 SPECIFICATIONS.

c. SEE SANITARY SEWER (F-9a & F9-b) FOR VERTICAL AND HORIZONTAL SEPARATIONS. d. Granular Backfill (No.53 Stone) shall be required for all utilities crossings under and within 5 FEET OF PAVEMENT, AREAS AND TRENCHES UNDER PAVEMENT SHALL BE COMPACTED TO 95 PERCENT

a. CONDUIT SHALL BE REQUIRED FOR ALL CROSSINGS UNDER PAVEMENT AREAS.

b. THE CONTRACTOR SHALL COORDINATE PLACEMENT OF THESE CONDUITS WITH THE POWER AND TELEPHONE COMPANIES PRIOR TO

c. Granular Backfill (No.53 Stone) shall be required for all crossings under pavement areas and trenches shall be compacted to 95 percent standard proctor.

d. Concrete pads for electric and telephone transformers shall be set at the approximate ground grade as shown on the SITE DEVELOPMENT GRADING PLANS FOR THE RESPECTIVE LOCATIONS.

e. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING WITH EACH UTILITY FOR INSTALLATION OF ANY LINES OR CONDUITS OR ANY OTHER EQUIPMENT REQUIRED IN THE PROJECT. THE UTILITIES SHALL BE NOTIFIED PRIOR TO THE PLACEMENT OF PAVEMENT A MINIMUM OF 7 WORKING DAYS SO THAT THEY MIGHT INSTALL ANY CROSSINGS.

J. GRANULAR BACKFILL SHALL BE IN ACCORDANCE WITH CURRENT I.N.D.O.T. STANDARD SPECIFICATIONS, AS REVISED

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

- a1. GENERAL: USE LOCALLY AVAILABLE MATERIALS AND GRADATIONS WHICH EXHIBIT A SATISFACTORY RECORD OF PREVIOUS INSTALLATIONS. Q2. COMPACTED AGGREGATE BASE: SOUND, ANGULAR CRUSHED LIMESTONE, CRUSHED OR UNCRUSHED GRAVEL. COURSE AGGREGATE SHALL
- BE CLASS A, B, C OR D AND CONFORM TO INDIANA DEPARTMENT OF TRANSPORTATION (I.N.D.O.T.) STANDARD SPECIFICATION SECTION 903. d3. BASE COURT AGGREGATE: SOUND, ANGULAR CRUSHED STONE, CRUSHED OR UNCRUSHED GRAVEL, OR CRUSHED SLAG, SAND, STONE, OR SLAG SCREENINGS. COARSE AGGREGATES SHALL BE CLASS A OR B AND CONFORM TO CURRENT I.N.D.O.T. STANDARD SPECIFICATIONS,
- 04. COARSE AGGREGATE FOR SURFACE AND BINDER MIXTURES: CRUSHED STONE, CRUSHED GRAVEL, CRUSHED SLAB, AND SHARP EDGED NATURAL SAND. SURFACE COARSE AGGREGATES SHALL BE CLASS A AND CONFORM TO CURRENT I.N.D.O.T. STANDARD SPECIFICATIONS, AS
- a5. ASPHALT CEMENT: PETROLEUM ASPHALT CEMENT, AP 5 WITH PENETRATION OF 60-70 OR VISCOSITY GRADED ASPHALT CEMENT AC-20 CONFORMING TO I.N.D.O.T. STANDARD SPECIFICATION SECTION 903.
- a7. TACK COAT: RAPID-CURE LIQUID ASPHALT OR ASPHALT EMULSION CONFORMING TO I.N.D.O.T. STANDARD SPECIFICATION SECTION 409.

a6. PRIME COAT: MEDIUM-CURE LIQUID ASPHALT OR ASPHALT EMULSION CONFORMING TO CURRENT I.N.D.O.T. STANDARD SPECIFICATIONS,

a8. Lane Marking Paint: Chlorinated Rubber-Alkyd Type, Aashto M248 (FS TT-P-115), Type III.

d9. SEAL COAT: ASPHALT PAVEMENT SEALER (BLACK) ASTM— D-3320.

- ALL BITUMINOUS MIXTURES ARE TO CONFORM TO CURRENT I.N.D.O.T. STANDARD SPECIFICATIONS, AS REVISED. CONTRACTOR SHALL PROVIDE
- A JOB MIX FORMULA PER EACH TYPE OF ASPHALT PRIOR TO CONSTRUCTION b1. SURFACE COURSE: #1°
- b2. BINDER COURSE: #8 b3. BASE COURSE: TYPE: #5D

- c1. REMOVE LOOSE MATERIAL FROM COMPACTED SUBBASE SURFACE IMMEDIATELY BEFORE APPLYING PRIME COAT. 1. PROOF ROLL SUBGRADE SURFACE TO CHECK FOR UNSTABLE AREAS AND AREAS REQUIRING ADDITIONAL COMPACTION. 2. NOTIFY CONTRACTOR OF UNSATISFACTORY CONDITIONS. DO NOT BEGIN PAVING WORK UNTIL DEFICIENT SUBBASE AREAS HAVE BEEN
- c2. AGGREGATE BASE: AFTER PLACEMENT, PROOF ROLL COMPACTED AGGREGATE BASE SURFACE TO CHECK FOR UNSTABLE AREAS AND AREAS REQUIRING ADDITIONAL COMPACTION. 1. NOTIFY CONTRACTOR OF UNSATISFACTORY CONDITIONS. DO NOT BEGIN PAVING WORK UNTIL DEFICIENT AGGREGATE BASE AREAS HAVE
- BEEN CORRECTED AND ARE READY TO RECEIVE PAVING. 2. REMOVE LOOSE MATERIAL FROM COMPACTED AGGREGATE BASE SURFACE IMMEDIATELY BEFORE APPLYING PRIME COAT. c3. TACK COAT: APPLY TO CONTACT SURFACES OF PREVIOUSLY CONSTRUCTED ASPHALT AND SURFACES ABUTTING OR PROJECTING INTO
- ASPHALT CONCRETE PAVEMENT. DISTRIBUTE AT RATE OF 0.05 TO 0.15 GAL. PER SQ. YD. OF SURFACE. 1. ALLOW TO DRY UNTIL AT PROPER CONDITION TO RECEIVE PAVING. 2. EXERCISE CARE IN APPLYING BITUMINOUS MATERIALS TO AVOID SMEARING OF ADJOINING SURFACES. REMOVE AND CLEAN DAMAGED
- d1. General: Place bituminous aggregate mixture on prepared surface, spread and strike-off. Spread mixture at minimum TEMPERATURE OF 225 DEGREES F. (107 DEGREES C). PLACE INACCESSIBLE AND SMALL AREAS BY HAND. PLACE EACH COURSE TO
- REQUIRED GRADE, CROSS-SECTION, AND COMPACTED THICKNESS. d2. BASE COURSE, COMPACTED AGGREGATE: SPREAD AND COMPACT IN TWO LIFTS AS FOLLOWS: 1. FIRST LIFT: NO. 5'S SHALL BE A MINIMUM OF 4" OR 1/2 THE TOTAL DEPTH OF AGGREGATE. EXTEND THE FIRST LIFT 4" OR A DISTANCE EQUAL TO THE DEPTH OF THE LIFT BEYOND THE SECOND LIFT.
- 2. SECOND LIFT: SIZE NO. 53. d3. PRIME COAT: SUBBASE SURFACE SHALL BE PRIMED IN ACCORDANCE WITH THE APPLICABLE REQUIREMENTS OF SECTION 408 OF
- d4. HOT ASPHALT CONCRETE BINDER COURSE: SPREAD AND ROLL TO MINIMUM FINISH DEPTHS INDICATED ON DETAILS.
- d5. Tack coat: Binder course shall be tacked prior to the installation of the surface course in accordance with the APPLICABLE REQUIREMENTS OF SECTION 409 OF CURRENT I.N.D.O.T. STANDARD SPECIFICATIONS, AS REVISED. d6. Surface course: Spread and roll to minimum finish depth indicated on details. Finish elevation shall be true to line AND GRADE WITHIN 1/2" OF TRUE ELEVATION
- d7. PAVER PLACING: PLACE IN STRIPS NOT LESS THAN 10' WIDE, UNLESS OTHERWISE ACCEPTABLE TO ARCHITECT/ENGINEER. AFTER FIRST STRIP HAS BEEN PLACED AND ROLLED, PLACE SUCCEEDING STRIPS AND EXTEND ROLLING TO OVERLAP PREVIOUS STRIPS. COMPLETE BINDER COURSE FOR A SECTION BEFORE PLACING SURFACE COURSE. db. Joints: Make Joints Between old and New Pavements, or between Paver Passes, or between successive days work, to ensure continuous bond between adjoining work. Construct Joints to have same texture, density and smoothness as
- e1. GENERAL: BEGIN ROLLING WHEN MIXTURE WILL BEAR ROLLER WEIGHT WITHOUT EXCESSIVE DISPLACEMENT.
- 1. COMPACT MIXTURE WITH HOT HAND TAMPERS OR VIBRATING PLATE COMPACTORS IN AREAS INACCESSIBLE TO ROLLERS. e2. Breakdown rolling: accomplish breakdown or initial rolling immediately following rolling of joints and outside edge.
- CHECK SURFACE AFTER BREAKDOWN ROLLING, AND REPAIR DISPLACED AREAS BY LOOSENING AND FILLING, IF REQUIRED, WITH HOT e3. SECOND ROLLING: FOLLOW BREAKDOWN ROLLING AS SOON AS POSSIBLE, WHICH MIXTURE IS HOT. CONTINUE SECOND ROLLING UNTIL MIXTURE HAS BEEN THOROUGHLY COMPACTED.
- e4. FINISH ROLLING: PERFORM FINISH ROLLING WHILE MIXTURE IS STILL WARM ENOUGH FOR REMOVAL OF ROLLER MARKS. CONTINUE ROLLING UNTIL ROLLER MARKS ARE ELIMINATED AND COURSE HAS ATTAINED MAXIMUM DENSITY. e5. PATCHING: REMOVE AND REPLACE PAVING AREAS MIXED WITH FOREIGN MATERIALS AND DEFECTIVE AREAS. CUT OUT SUCH AREAS AND FILL WITH FRESH, HOT BITUMINOUS AGGREGATE MIX. COMPACT BY ROLLING TO MAXIMUM SURFACE DENSITY AND SMOOTHNESS. e6. PROTECTION: AFTER FINAL ROLLING, DO NOT PERMIT VEHICULAR TRAFFIC ON PAVEMENT UNTIL IT HAS COOLED AND HARDENED. e7. ERECT BARRICADES TO PROTECT PAVING FROM TRAFFIC UNTIL MIXTURE HAS COOLED ENOUGH NOT TO BECOME MARKED.

e8. SEAL COAT: ALLOW PAVEMENT 30 DAYS TO CURE BEFORE SEALER IS APPLIED, ACCORDING TO MANUFACTURER'S RECOMMENDATIONS

APPLY TWO COATS OF PAVEMENT SEALER. DO NOT APPLY SEAL COAT UNTIL AFTER SURFACE COURSE HAS BEEN CHECKED AND ANY RREGULARITIES OR ERRORS HAVE BEEN SATISFACTORILY CORRECTED.

OTHER SECTIONS. CLEAN CONTACT SURFACES AND APPLY TACK COAT.

1. APPLY FIRST COAT IN LENGTHWISE FASHION TO PAVEMENT SURFACE. 2. APPLY SECOND COAT IN CROSS WISE FASHION (90 DEGREES TO DIRECTION OF FIRST COAT).

3. APPLY SEALER AT UNIFORM RATE AS RECOMMENDED BY MANUFACTURER.

- f. TRAFFIC AND LANE MARKINGS
- f1. CLEANING: SWEEP AND CLEAN SURFACE TO ELIMINATE LOOSE MATERIAL AND DUST. f2. STRIPPING: USE CHLORINATED RUBBER BASE TRAFFIC LANE-MARKING PAINT, FACTORY-MIXED, QUICK-DRYING, AND NON-BLEEDING.
- 1. DO NOT APPLY TRAFFIC AND LANE MARKING PAINT UNTIL LAYOUT AND PLACEMENT HAS BEEN VERIFIED WITH ARCHITECT/ENGINEER. 2. APPLY PAINT WITH MECHANICAL EQUIPMENT TO PRODUCE UNIFORM STRAIGHT EDGES. APPLY IN TWO COATS AT MANUFACTURER'S

g. FIELD QUALITY CONTROL

- g1. TESTING AND INSPECTION SERVICE: 1. OWNER SHALL EMPLOY A TESTING LABORATORY TO PERFORM PAVEMENT TESTING AND INSPECTION SERVICE FOR QUALITY CONTROL DURING PAVING OPERATIONS. THE TESTING COMPANY IS SPECIFIED BY JOHNSON COUNTY THROUGH THE TESTING AGREEMENT SIGNED BY
- 2. TESTING SERVICE SHALL HAVE REPRESENTATIVE PRESENT TO OBSERVE AND PERFORM TESTS AT ALL TIMES PAVING WORK IS IN g2. General: Testing service representative shall take a minimum of two samples per lift of bituminous aggregate mix EACH DAY BEFORE PAVING OPERATION. LABORATORY TEST SHALL BE PERFORMED ON THESE SAMPLES TO DETERMINE AGGREGATE
- 1. TEST IN-PLACE COMPACTED BITUMINOUS AGGREGATE MIX COURSES FOR COMPLIANCE WITH REQUIREMENTS FOR THICKNESS, DENSITY AND AIR VOIDS AND SURFACE SMOOTHNESS. REPAIR OR REMOVE AND REPLACE UNACCEPTABLE PAVING AS DIRECTED BY ENGINEER. 2. A TEST SECTION AT A MINIMUM SIZE OF 100' X 12' SHALL BE PLACED AT A LOCATION AS DIRECTED BY THE COUNTY PRIOR TO FULL PRODUCTION FOR EACH TYPE OF MIX. THE TEST SECTION SHALL BE COMPACTED TO DETERMINE A TARGET DENSITY FOR THE REMAINDER
- j3. THICKNESS: IN-PLACE COMPACTED THICKNESS WILL NOT BE ACCEPTABLE IF EXCEEDING FOLLOWING ALLOWABLE VARIATION FROM REQUIRED THICKNESS:
- SURFACE COURSE: 1/4", PLUS OR MINUS 1. A MINIMUM OF TWO PAVEMENT CORES PER COMPACTED LIFT SHALL BE TAKEN. CORES ARE TO BE TAKEN AT LOCATIONS AND AT TIMES OF DAY AS DIRECTED BY THE TESTING SERVICE. THE FOLLOWING TESTS SHALL BE PERFORMED BY THE TESTING SERVICE, ON EACH
- 2. A TEST SECTION AT A MINIMUM SIZE OF 100'x12' SHALL BE PLACED AT A LOCATION AS DIRECTED BY THE COUNTY PRIOR TO FULL PRODUCTION FOR EACH TYPE OF MIX. THE TEST SECTION SHALL BE COMPACTED TO DETERMINE A TARGET DENSITY OF THE REMAINDER OF 3. TESTING SERVICE SHALL SUBMIT CERTIFIED RESULTS TO THE OWNER AND ARCHITECT/ENGINEER WITHIN 72 HOURS AFTER TESTS ARE MADE, WITH THEIR COMMENTS AND RECOMMENDATIONS FOR ACTION.
- a4. Surface smoothness: test finished surface for smoothness, using 10' straightedge applied parallel with, and at right ANGLES TO CENTERLINE OF PAVED AREA. SURFACE WILL NOT BE ACCEPTABLE IF EXCEEDING THE FOLLOWING TOLERANCES FOR

4. PAVEMENT WHICH FAILS TO COMPLY WITH APPROVED JOB MIX FORMULA SHALL BE REPLACED AS DIRECTED BY THE

AGGREGATE BASE COURSE SURFACE: 1/4". BASE COURSE SURFACE: 1/4".

AGGREGATE BASE COURSE: 1/2", PLUS OR MINUS.

BASE COURSE: 1/2", PLUS OR MINUS.

BINDER COURSE: 1/4". PLUS OR MINUS.

BINDER COURSE SURFACE: 1/8". WEARING COURSE SURFACE: 1/8" 1. CHECK SURFACED AREAS AT INTERVALS AS DIRECTED BY TESTING SERVICE.

- g5. DENSITY TESTS: DENSITY TESTS SHALL BE MADE AT EACH LIFT. TESTS SHALL BE AS FOLLOWS:
- 1. TESTS WILL BE REQUIRED AT VARIOUS TIMES AND LOCATIONS FOR SUBGRADE AND BASE COURSES FOR ASPHALT
- 5. TESTING SERVICE SHALL SUBMIT CERTIFIED RESULTS TO THE OWNER AND ENGINEER WITHIN 72 HOURS AFTER TESTS
- ARE MADE WITH THEIR COMMENTS AND RECOMMENDATIONS FOR ACTION.
- 3. SUBGRADE SHALL BE PREPARED IN ACCORDANCE WITH CURRENT I.N.D.O.T. STANDARD SPECIFICATIONS, AS REVISED
- SECTION 207 AND SUBSECTION 501.07. NO TRAFFIC SHALL BE PERMITTED ON THE PREPARED SUBGRADE PRIOR TO
- 4. SEE GRADING, SECTION "E" FOR ADDITIONAL COMPACTION REQUIREMENTS.
- 1. SEE DETAIL SHEET FOR TYPE AND DETAILS.

3. REINFORCEMENT

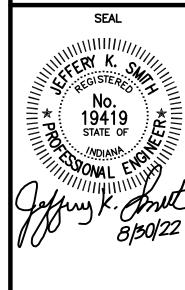
- 2. CONCRETE SHALL BE READY MIXED PORTLAND CEMENT CONFORMING TO A.S.T.M. C-150 AND WATER. AGGREGATE SHALL CONFORM TO A.S.T.M. C-33. CONCRETE SHALL BE 6 BAG CLASS "A" WITH COMPRESSIVE STRENGTH OF CONCRETE AT 28 DAYS BEING MINIMUM 4000 P.S.I. WHERE REQUIRED,
- a. WELDED WIRE FABRIC SHALL CONFORM TO A.S.T.M. A-185 b. REINFORCING STEEL SHALL CONFORM TO A.S.T.M. A-615
- a. PLACE CONCRETE ONLY ON A MOIST, COMPACTED SUBGRADE OR BASE FREE FROM LOOSE MATERIAL. PLACE CONCRETE ON MUDDY OR FROZEN SUBGRADE.
- b. Concrete shall be deposited so as to require as little rehandling as practicable. No concrete I TO BE PLACED AT AN ATMOSPHERIC TEMPERATURE OF 35 DEGREES F OR LESS c. EXCEPT AS OTHERWISE SPECIFIED, CURE ALL CONCRETE BY ONE OF THE METHODS DESCRIBED IN I.N.D.O.T. SPECIFICATIONS, CURRENT EDITION
- M. FINISH GRADING AND SEEDING
- . OVER THE APPROVED ROUGH GRADE (SEE SECTION E), SPREAD 4" MINIMUM OF TOPSOIL OR APPROVED FILL TO SUCH DEPTH AS WILL FINISH TO THE REQUIRED FINISH GRADES AND CONTOURS AFTER ROLLING AND NATURAL SETTLEMENT. NEW GRADES SHALL SLOPE UNIFORMLY BETWEEN LEVELS ESTABLISHED ON THE PLANS AND Intersections of New Grades with existing grades shall be uniform and smooth.
- SHALL BE MIXED INTO THE TOP 2" OF SOIL WITH A DISK HARROW, ROTARY TILLER OR OTHER APPROVED EQUIPMENT. FERTILIZER SHALL BE SPREAD AT THE RATE OF 800 POUNDS PER ACRE AND AGRICULTURAL LIMESTONE

2. FERTILIZER AND AGRICULTURAL LIMESTONE SHALL BE SPREAD UNIFORMLY OVER THE AREA TO BE SEEDED. THE

- AT THE RATE OF 1/2 TON PER ACRE UNLESS OTHERWISE SPECIFIED. 3. TEMPORARY SEEDING— THE AREAS WHERE STRIPPING, CUTS OR FILLS HAVE BEEN GRADED SHALL BE SEEDED FOR SILT AND EROSION PROTECTION WITH ONE OF THE FOLLOWING METHODS:
- a. EARLY SPRING MIX: 100% OAT SEEDING RATE: 50 LBS./ACRE
- b. SPRING OR LATE FALL MIX: 100% ANNUAL RYE SEEDING RATE: 50 LBS./ACRE
- c. FALL MIX: 100% PERENNIAL RYE SEEDING RATE 50 LBS./ACRE
 - STRAW OR MULCH AS APPROVED BY THE ENGINEER SHALL BE APPLIED AT A RATE OF 2 TONS PER ACRE. MULCH-SEEDING: MULCH-SEEDING SHALL BE AS PER I.D.O.H SPECIFICATIONS, SECTION 621, DATED 1988. FERTILIZER SHALL BE 12-12-12 APPLIED AT THE RATE OF 400 POUNDS PER ACRE. SEED MIXTURE SHALL BE 60

POUNDS PER ACRE OF PERENNIAL RYE GRASS AND 60 POUNDS PER ACRE OF KENTUCKY 31 FESCUE OR ALTA

S CHA



JOB NUMBER 20019.01