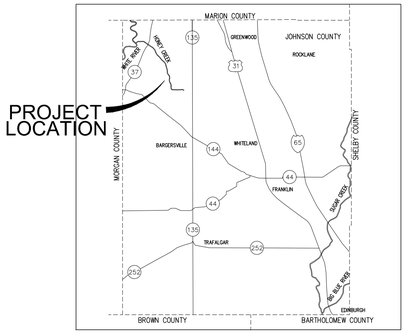
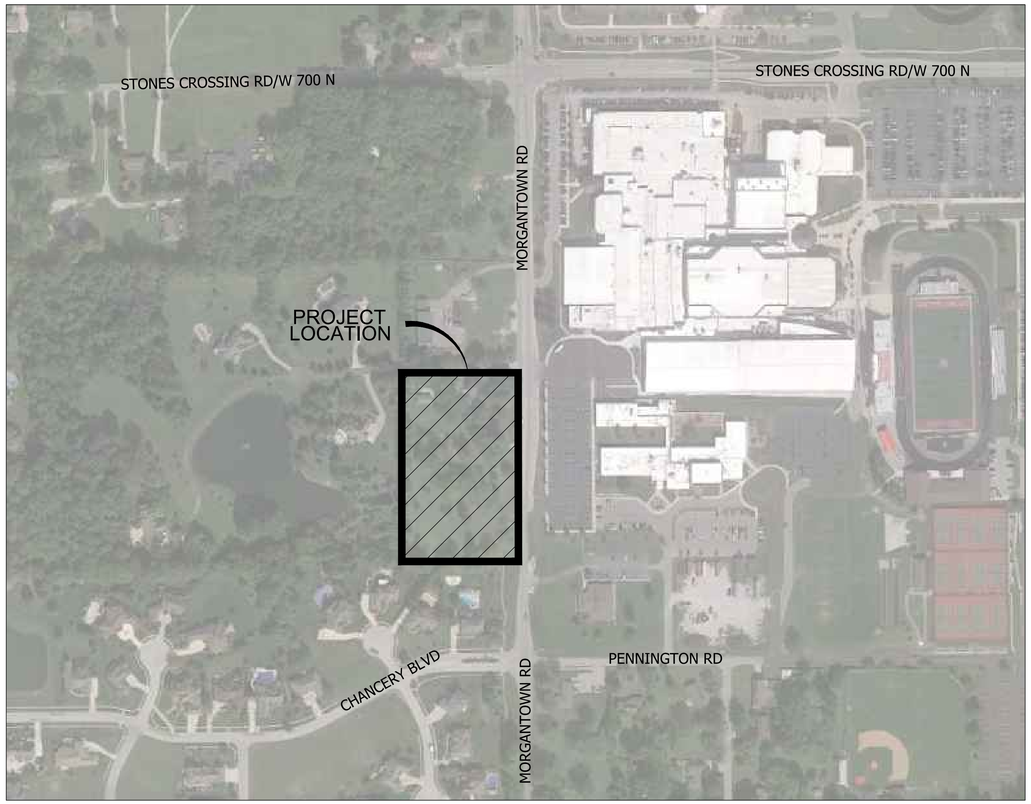
FINAL CONSTRUCTION PLANS

CENTER GROVE H.S. WELLNESS CENTER
MORGANTOWN RD.
GREENWOOD, INDIANA 46143



COUNTY LOCATION MAP
NO SCALE



LOCATION MAP
NO SCALE

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BENCHMARK INFORMATION

ORIGINATING BENCHMARK #1
DESIGNATION – X 13
PID – KA0010
STATE/COUNTY – IN/MORGAN
USGS QUAD – MOORESVILLE EAST (1980)
VERT ORDER – FIRST CLASS II

DESCRIBED BY COAST AND GEODETIC SURVEY 1946
1.2 MI N FROM WAVERLY, IN JOHNSON COUNTY, 1.2 MILES NORTH ALONG STATE HIGHWAY 37 FROM THE INTERSECTION OF STATE HIGHWAY 144 AT WAVERLY, MORGAN COUNTY, 125 YARDS NORTH OF THE MORGAN–JOHNSON COUNTY LINE, 26 FEET WEST OF THE CENTERLINE OF THE HIGHWAY, IN LINE WITH THE WEST RIGHT–OF–WAY FENCE, 1.5 FEET SOUTH OF A WHITE WOODEN WITNESS POST, AND ABOUT 2 FEET HIGHER THAN THE HIGHWAY. A STANDARD DISK, STAMPED 686.370 X 13 1930 AND SET IN THE TOP OF A CONCRETE POST PROJECTING 7 INCHES ABOVE GROUND.
RECOVERY NOTE BY IN DEPT OF NAT RES 1985
NEW DESC– AT THE INTERSECTION OF NEW STATE ROAD 144 AND OLD STATE ROAD 37, IN THE SOUTHWEST QUARTER OF THE INTERSECTION, WITNESS POST IS GONE RIGHT–OF–WAY FENCE IS GONE, ALL OTHER INFORMATION APPEARS TO BE CORRECT.

ELEVATION = 685.94 (NAVD 88)

LEGAL DESCRIPTION

APPLE ACRES PLAT
A PART OF THE NORTHEAST QUARTER OF THE NORTHEAST QUARTER OF SECTION 16, TOWNSHIP 13 NORTH, RANGE 3 EAST OF THE SECOND PRINCIPAL MERIDIAN, DESCRIBED AS FOLLOWS:

BEGINNING AT THE SOUTHEAST CORNER OF SAID QUARTER QUARTER SECTION; THENCE SOUTH 88 DEGREES 24 MINUTES WEST ON AND ALONG THE SOUTH LINE OF SAID QUARTER QUARTER SECTION 250.00 FEET; THENCE NORTH PARALLEL TO THE EAST LINE OF SAID QUARTER QUARTER SECTION 508.00 FEET; THENCE NORTH 88 DEGREES 24 MINUTES EAST PARALLEL TO THE SOUTH LINE OF SAID QUARTER QUARTER SECTION 250.00 FEET TO THE EAST LINE OF SAID QUARTER QUARTER SECTION; THENCE SOUTH ON AND ALONG LAST SAID EAST LINE 508.00 FEET TO THE PLACE OF BEGINNING, CONTAINING 2.91 ACERS MORE OR LESS.

FLOODPLAIN INFORMATION

BY GRAPHIC PLOTTING ONLY, THIS TRACT OF LAND DESCRIBED HEREON LIES WITHIN ZONE "X" (AREAS OUTSIDE THE 500–YEAR FLOODPLAIN) AND IS NOT IN A SPECIAL FLOOD HAZARD AREA AS PLOTTED ON THE FEDERAL EMERGENCY MANAGEMENT AGENCY FLOOD INSURANCE RATE MAP FOR JOHNSON COUNTY, INDIANA, COMMUNITY PANEL NO. 18081C0105D, WHICH BEARS AN EFFECTIVE DATE OF 08/02/2007.

TOTAL DISTURBED AREA

2.785 acres

UTILITIES

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

FIBER
MCI
PHONE: (518) 424–3950
CONTACT: DENNIS CRAIG
EMAIL: DENNIS.CRAIG@VERIZON.COM

GAS
VECTREN
1800 W. 26TH ST MUNCIE, IN 47302
PHONE: (765) 287–2150
CONTACT: MOSTAFA KHALLAD

FIBER
ZAYO
9209 CASTLEGATE DR INDIANAPOLIS, IN 46256
PHONE: (765) 341–1199
CONTACT: WAYLON HIGGINS

WATER
TOWN OF BARGERSVILLE
24 N MAIN STREET BARGERSVILLE, IN 46106
PHONE: (317) 422–3171
CONTACT: KEVIN KILLINGER

ELECTRIC
DUKE ENERGY
1000 E MAIN ST PLAINFIELD, IN 46143
PHONE: (812) 545–5667
CONTACT: QUENTIN KNIGHT

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

OWNER/DEVELOPER
CENTER GROVE COMMUNITY SCHOOL CORPORATION
3653 WEST WHITELAND ROAD
PHONE: (317) 881-0515
FAX: (317) 885-4549
CONTACT: DARRELL THOMPSON
EMAIL: THOMPSONJRD@CENTERGROVE.K12.IN.US

ENGINEER
CROSSROAD ENGINEERS, PC
115 N 17th AVENUE
BEECH GROVE, IN 46107
PHONE: (317) 780-1555
CONTACT: GREGORY J. ILKO
EMAIL: gilko@crossroadengineers.com

DIRECTOR
JOHNSON COUNTY PLANNING & ZONING
86 WEST COURT STREET
FRANKLIN, IN 46131
PHONE: (317) 346-4350
CONTACT: MICHELE HANSARD
EMAIL: mhansard@co.johnson.in.us

PLANNING ENGINEER
JOHNSON COUNTY PLANNING & ZONING
86 WEST COURT STREET
FRANKLIN, IN 46131
PHONE: (317) 346-4350
CONTACT: RICHARD HOOVER
EMAIL: rhoover@co.johnson.in.us

COUNTY SURVEYOR
CROSSROAD ENGINEERS, PC
86 WEST COURT STREET
FRANKLIN, IN 46131
PHONE: (317) 346-4385
CONTACT: GREGG CANTWELL
EMAIL: gcantwell@co.johnson.in.us

DIRECTORY PATH : R:\Active\Center Grove Community School Corporation\Wellness Center\Design\CAD\Plans
FILENAME : 100 TITLE SHEET.dwg
DATE/USER : 8/8/2022 8:42 AM / Dpeloso

CROSSROAD ENGINEERS, PC
Transportation & Development Consultants
115 N. 17th AVENUE, BEECH GROVE, IN 46107 (317) 780-1555
SHEET 100

TITLE SHEET

CENTER GROVE WELLNESS CENTER

JOB No. . | DRAWN DEP | CHECKED TEN | APPR. GJI
DATE AUGUST 9, 2022 | DESIGNED CDM

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

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

SHEET 100

30 0 30 60

SCALE: 1" = 30'

TOPOGRAPHICAL NOTES

1. CONTRACTOR SHALL DISPOSE OF ALL MATERIALS IN ACCORDANCE WITH FEDERAL, STATE, AND LOCAL REGULATIONS.
2. UTILITIES ARE GRAPHICAL REPRESENTATION PER SURVEY AND MAPPING. CONTRACTOR SHALL FIELD VERIFY ALL UTILITIES PRIOR TO CONSTRUCTION.
3. IF IT WILL BE NECESSARY TO RELOCATE UTILITIES, THE EXPENSE OF SUCH RELOCATION SHALL BE THE RESPONSIBILITY OF THE DEVELOPER. ALL UTILITY POLES SHALL BE LOCATED WITHIN ONE-FOOT OF THE PROPOSED RIGHT-OF-WAY.
4. ALL PAVING WITHIN THE EXISTING AND PROPOSED CITY RIGHT-OF-WAY SHALL CONFORM TO THE REQUIREMENTS OF THE DEPARTMENT OF ENGINEERING. CONTRACTOR SHALL CONTACT THE DEPARTMENT OF ENGINEERING TO SCHEDULE A PRE-CONSTRUCTION MEETING TO REVIEW THE DEPARTMENT'S CONSTRUCTION REQUIREMENTS, STAFF NOTIFICATION REQUIREMENTS, REQUIRED INSPECTIONS FOR CERTAIN STAGES OF THE WORK AND TO REVIEW THE AUTHORITY OF THE DEPARTMENT AS IT RELATES TO WORK WITHIN THE EXISTING AND PROPOSED CITY RIGHT-OF-WAY.
5. CONTRACTOR SHALL COORDINATE WITH ALL APPLICABLE UTILITY COMPANIES FOR SERVICE DIS-CONNECTIONS. CONTRACTOR SHALL PROVIDE REQUIRED NOTICE TO UTILITIES FOR THEM TO COMPLETE ALL WORK.
6. FOR ALL DRIVEWAY OR ROADWAY DEMOLITION WITHIN THE PROPOSED RIGHT-OF-WAY, THE CONTRACTOR SHALL FOLLOW ALL DEMOLITION AND RESTORATION GUIDELINES PER CITY OF GREENWOOD STANDARDS.
7. CONTRACTOR TO ENSURE ALL EXISTING SANITARY SEWER SERVICES ARE PROPERLY TERMINATED WITH A PVC CAP PRIOR TO DEMOLITION OF STRUCTURE. THE DIS-CONNECTION MUST BE INSPECTED BY CLAY TOWNSHIP REGIONAL WASTE DISTRICT.
8. CONTRACTOR SHALL INSTALL TREE PROTECTION FENCING AROUND ALL TREES TO BE PRESERVED PRIOR TO ANY ONSITE DEMOLITION.
9. ALL DISTURBED AREAS SHALL RECEIVE MULCHED SEEDING IMMEDIATELY FOLLOWING ANY NECESSARY GRADING ACTIVITIES OR AT THE STORM WATER INSPECTORS DISCRETION.
10. CONTRACTOR TO COORDINATE WITH CITY OF GREENWOOD AND JOHNSON COUNTY HEALTH DEPARTMENT IF ANY WELLS OR SEPTIC SYSTEMS ARE FOUND ON SITE. CONTRACTOR SHALL FOLLOW ALL APPLICABLE FEDERAL, STATE, COUNTY AND CITY LAWS/STANDARDS/REQUIREMENTS FOR ABANDONMENT OF ANY EXISTING WELLS OR SEPTIC SYSTEMS.
11. EXISTING PLAT TO BE VACATED INCLUDING EXISTING EASEMENTS SHOWN ON THIS SHEET.
12. CONTRACTOR TO COORDINATE WITH OWNER FOR TREE/STUMP REMOVAL WITHIN CONSTRUCTION LIMITS.

EXISTING LEGEND

POWERPOLE	CONTOURS
POWERPOLE W/RISER	PROPERTY LINE
ELECTRIC BOX	SECTION LINE
GUIDE WIRE	RIGHT-OF-WAY
WATER VALVE	EASEMENT
FIRE HYDRANT	ADJOINER LINE
WATER METER	PAVEMENT LINE
GAS VALVE	PRIVACY FENCE
GAS VALVE	DITCH
CLEANOUT	GAS LINE
SIGN	TELEPHONE LINE
MAILBOX	WATER LINE
STORM ROUND INLET	OVERHEAD UTILITY LINE
STORM CURB INLET	TREE LINE
TREE, BUSH & STUMP	SANITARY SEWER W/MANHOLE
TEMP. BENCHMARK	STORM SEWER W/ MANHOLE & END SECTION
MONUMENT FOUND	

ASPHALT CONCRETE GRAVEL REMOVAL/DEMOLISH

BENCHMARK INFORMATION

ORIGINATING BENCHMARK #1
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USGS QUAD – MOORESVILLE EAST (1980)
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EXISTING UTILITY SIZE AND MATERIAL INFORMATION SHOWN ON THESE PLANS ARE PER THE BEST GRAPHICAL AND VISIBLE INFORMATION AVAILABLE. CONFLICTS MAY EXIST AND IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO FIELD VERIFY ALL SIZING AND MATERIAL INFORMATION PROVIDED. IF ACTUAL CONDITIONS DIFFER FROM THAT INFORMATION SHOWN ON THE PLANS, THE CONTRACTOR SHALL, PRIOR TO THE INSTALLATION OF ANY PROPOSED INFRASTRUCTURE, NOTIFY THE DESIGN ENGINEER IMMEDIATELY.

CROSSROAD ENGINEERS, PC
Transportation & Development Consultants
115 N. 17th AVENUE, BEECH GROVE, IN 46107 (317) 780-1555

TOPOGRAPHIC SURVEY

CENTER GROVE WELLNESS CENTER

JOB No.	.	DATE	AUGUST 9, 2022
DRAWN	DEP	DESIGNED	CDM
CHECKED	TEN	APPR.	GJI

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

NO.	DATE	REVISIONS	BY	APPR.
1				
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EXISTING LEGEND

- POWERPOLE
- POWERPOLE W/RISER
- ELECTRIC BOX
- GUIDE WIRE
- WATER VALVE
- FIRE HYDRANT
- WATER METER
- GAS VALVE
- GAS VALVE
- CLEANOUT
- SIGN
- MAILBOX
- STORM ROUND INLET
- STORM CURB INLET
- TREE, BUSH & STUMP
- TEMP. BENCHMARK
- MONUMENT FOUND
- CONTOURS
- PROPERTY LINE
- SECTION LINE
- RIGHT-OF-WAY
- EASEMENT
- ADJOINER LINE
- PAVEMENT LINE
- PRIVACY FENCE
- DITCH
- GAS LINE
- TELEPHONE LINE
- WATER LINE
- OVERHEAD UTILITY LINE
- TREE LINE
- SANITARY SEWER W/MANHOLE
- STORM SEWER W/ MANHOLE & END SECTION
- ASPHALT
- CONCRETE
- GRAVEL
- REMOVAL/DEMOLISH

SITE DIMENSION LEGEND

- (A) MULCH SEEDING/LANDSCAPE AREAS
- (B) STRUCTURE FOUNDATION – PER BUILDING PLANS
- (C) STRAIGHT CONCRETE CURB (SEE DETAIL–SHEET 900)
- (C1) CONCRETE CURB AND GUTTER (SEE DETAIL–SHEET 900)
- (D) 4" CONCRETE SIDEWALK (SEE DETAIL–SHEET 900)
- (D1) MONOLITHIC CONCRETE CURB AND SIDEWALK (SEE DETAIL–SHEET 900)
- (F) HANDICAP RAMP (SEE DETAIL–SHEET 900)
- (G) TYPICAL CONCRETE SECTION
  6" CONCRETE SLAB ON
  6" COMPACTED AGGREGATE #53 TYPE 'O' ON
  COMPACTED SUBGRADE (SEE DETAIL–SHEET 900)
- (H) TRASH ENCLOSURE (SEE DETAIL–SHEET 900)
- (J) SAWCUT
- (K) TYPICAL ASPHALT SECTION
  1.5" HMA SURFACE 9.5mm, ON
  2.5" HMA INTERMEDIATE 19.0mm, ON
  6" COMPACTED AGGREGATE #53, ON
  COMPACTED SUBGRADE (SEE DETAIL–SHEET 900)
- (0) BOLLARD (SEE DETAIL–SHEET 900)
- (1) LINE, PAINTED, SOLID WHITE, 4"
- (2) LINE, PAINTED, SOLID BLUE, 4"
- (3) HANDICAP SYMBOL, PAINTED, SOLID BLUE, 4"
- (4) ADA PARKING SIGNAGE (SEE DETAIL THIS SHEET)
- (5) TURN ARROW, PAINTED, SOLID WHITE
- (6) LINE, THERMOPLASTIC, SOLID WHITE, CROSSWALK, 24 INCHES
- (K1) TYPICAL ASPHALT SECTION
  1" HMA SURFACE 9.5mm, ON
  2" HMA INTERMEDIATE 19.0mm, ON
  6" HMA BASE 25.0mm, ON
  8" COMPACTED AGGREGATE #53, ON
  COMPACTED SUBGRADE (SEE DETAIL–SHEET 900)

ABBREVIATIONS

FYS	FRONT YARD SETBACK
SYS	SIDE YARD SETBACK
RYS	REAR YARD SETBACK
DUE	DRAINAGE & UTILITY EASEMENT
NAE	NON–ACCESS EASEMENT
AE	ACCESS EASEMENT
M.F.P.G.	MINIMUM FLOOD PROTECTION GRADE
M.L.A.G.	MINIMUM LOWEST ADJACENT GRADE
F.F.E.	FINISH FLOOR ELEVATION

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

North

20 0 20 40

SCALE: 1" = 20'

PARKING ANALYSIS

CLINIC OR MEDICIAL HEALTH CENTER		
TOTAL SQUARE FOOTAGE	=	6670 SFT
REQUIRED RATIO	=	1 SPACE/300 SFT
REQUIRED SPACES	=	23 SPACES
EXERCISE ACTIVITY ROOM		
TOTAL # OF PARTICIPATES	=	15 PEOPLE
REQUIRED RATIO	=	1 SPACE/PERSON
REQUIRED SPACES	=	15 SPACES
TOTAL REQUIRED SPACES	=	38 SPACES
STANDARD PARKING SPACES	=	46 SPACES
HANDICAP ACCESSIBLE SPACES	=	4 SPACES
TOTAL PROPOSED PARKING SPACES	=	50 SPACES

SITE DIMENSION NOTES

1. STREET SIGNAGE AND LIGHTING SHALL CONFORM TO JOHNSON COUNTY STANDARDS. CONTRACTOR SHALL COORDINATE WITH OWNER AND/OR JOHNSON COUNTY FOR ALL REQUIRED DETAILS AND SPECIFICATIONS.
3. CONTRACTOR SHALL NOTIFY ENGINEER, IF PROOF ROLL OF SUBGRADE FAILS, TO DETERMINE IF LIME STABILIZATION OF SUBGRADE IS NECESSARY.
4. ALL RADII DIMENSIONS ARE TO THE FACE OF PROPOSED CURB.
5. SIGNAGE SHALL INCLUDE ALL NECESSARY HARDWARE AND FITTINGS, INCLUDING 10 FT. OF 11 GAUGE FLANGED CHANNEL SIGN POST.
7. REFER TO ARCHITECTURAL PLANS FOR ADDITIONAL SIGNAGE.
   VERIFY CONFLICTS WITH OWNER.
8. ALL STORM SEWERS LOCATED OUTSIDE THE PUBLIC RIGHT–OF–WAY SHALL BE PRIVATELY OWNED AND MAINTAINED.

PROPOSED LEGEND

- PROPERTY LINE
- SECTION LINE
- PHASE LINE
- SETBACK LINE
- EASEMENT LINE
- FENCE LINE
- DITCH LINE
- SANITARY SEWER WITH MANHOLE
- SANITARY SEWER LATERAL WITH CLEANOUT
- STORM SEWER W/MANHOLE & END SECTION
- ELECTRIC LINE
- WATER LINE
- WATER SERVICE LINE
- GAS LINE
- STORM MANHOLES
- STORM INLETS
- STORM CURB INLETS
- AQUA–SWIRL UNITS
- WATER TEE
- 45° BEND
- 22.5° BEND
- 11.25° BEND
- TAPPING SLEEVE
- WATER VALVE
- FIRE HYDRANT
- WATER REDUCER
- STORTZ FDC
- WATER PLUG
- WATER VAULT
- ELECTRIC TRANSFORMER
- GENERATOR
- GREASE TRAP
- LIGHT POLE
- YARD LIGHT
- SIGN
- GRANULAR BACKFILL ALONG STORM SEWER LINE
- GRANULAR BACKFILL ALONG SANITARY SEWER LINE

R7–8 (12" X 18") RESERVED PARKING

R7–8a (STANDARD SIZE) VAN ACCESSIBLE

ADA PARKING SIGNAGE DETAIL (4)
NOT TO SCALE

20' BUFFER YARD
CENTERBROOK TRACE
S MORGANTOWN RD.
EX. RIGHT–OF–WAY
PROP. 65' RIGHT–OF–WAY
DRY DETENTION BASIN
FUTURE BUILDING
45° FYS
Str. No. 1
Str. No. 2
Str. No. 3
Str. No. 4
Str. No. 5
Str. No. 6
Str. No. 7
Str. No. 8
Str. No. 9
Str. No. 10
Str. No. 11
5 SPCS @ 10' = 50'
6 SPCS @ 10' = 60'
2 SPCS @ 10' = 20'
7 SPCS @ 10' = 70'
4 SPCS @ 10' = 40'
3 SPCS @ 10' = 30'

DIRECTORY PATH : R:\Active\Center Grove Community School Corporation\Wellness Center\Design\CAD\Plans
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CROSSROAD ENGINEERS, PC
Transportation & Development Consultants
115 N. 17th AVENUE, BEECH GROVE, IN 46107 (317) 780-1555

SHEET 300

SITE DIMENSION PLAN

CENTER GROVE WELLNESS CENTER

TEN | CHECKED | APPR.
DEP | CDM
DRAWN | DESIGNED
JOB No. . | DATE AUGUST 9, 2022

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

NO.	DATE	REVISIONS	BY	APPR.
1				
2				
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SHEET 300

EXISTING LEGEND

POWERPOLE	CONTOURS
POWERPOLE W/RISER	PROPERTY LINE
ELECTRIC BOX	SECTION LINE
GUIDE WIRE	RIGHT-OF-WAY
WATER VALVE	EASEMENT
FIRE HYDRANT	ADJOINER LINE
WATER METER	PAVEMENT LINE
GAS VALVE	PRIVACY FENCE
GAS VALVE	DITCH
CLEANOUT	GAS LINE
SIGN	TELEPHONE LINE
MAILBOX	WATER LINE
STORM ROUND INLET	OVERHEAD UTILITY LINE
STORM CURB INLET	TREE LINE
TREE, BUSH & STUMP	SANITARY SEWER W/MANHOLE
TEMP. BENCHMARK	STORM SEWER W/ MANHOLE & END SECTION
MONUMENT FOUND	

ASPHALT | CONCRETE | GRAVEL | REMOVAL/DEMOLISH

ENTRANCE PLAN LEGEND

1. LINE, PAINTED, SOLID WHITE, 4"
5. TURN ARROW, PAINTED, SOLID WHITE
C. STRAIGHT CONCRETE CURB (SEE DETAIL-SHEET 900)
C1. CONCRETE CURB AND GUTTER (SEE DETAIL-SHEET 900)
D. 4" CONCRETE SIDEWALK (SEE DETAIL-SHEET 900)
J. SAWCUT

K. TYPICAL ASPHALT SECTION
1.5" HMA SURFACE 9.5mm, ON
2.5" HMA INTERMEDIATE 19.0mm, ON
6" COMPACTED AGGREGATE #53, ON
COMPACTED SUBGRADE (SEE DETAIL-SHEET 900)

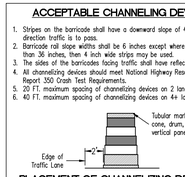
K1. TYPICAL ASPHALT SECTION
1" HMA SURFACE 9.5mm, ON
2" HMA INTERMEDIATE 19.0mm, ON
6" HMA BASE 25.0mm, ON
8" COMPACTED AGGREGATE #53, ON
COMPACTED SUBGRADE (SEE DETAIL-SHEET 900)

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

NORTH
20 0 20 40
SCALE: 1" = 20'

ACCEPTABLE CHANNELING DEVICES

1. Stripes on the barricade shall have a downward slope of 45 degrees toward the direction traffic is to pass.
2. Barricade rail slope widths shall be 6 inches except where the rail lengths are less than 36 inches, then 4 inch wide strips may be used.
3. The sides of the barricades facing traffic shall have reflective rail faces.
4. All channelizing devices should meet National Highway Research Program (NCHRP) Report 350 Crash Test Requirements.
5. 20 FT. maximum spacing of channelizing devices on 2 lane roads.
6. 40 FT. maximum spacing of channelizing devices on 4+ lane roads.



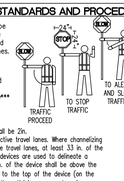
DRUM
NOT TO SCALE

PLACEMENT OF CHANNELIZING DEVICES
NOT TO SCALE

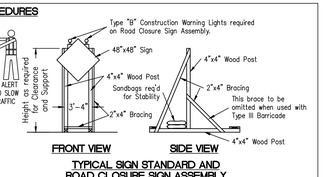
NOTES:
1. The maximum distance between the edges of adjacent reflective strips shall be 2ft.
2. It is not necessary to delineate a drop-off of 3 in. or less adjacent to active travel lanes. Where channelizing devices are used to delineate drop-offs of 3 in. or less adjacent to active travel lanes, at least 33 in. of the device shall be above the adjoining pavement surface. Where channelizing devices are used to delineate a drop-off greater than 3 in. adjacent to active travel lanes, at least 27 in. of the device shall be above the adjoining pavement surface and a Type C Warning Light shall be attached to the top of the device (on the pavement side). In no case shall more than 9 in. of the device be below the adjoining pavement surface.

FLAGMEN STANDARDS AND PROCEDURES

If flaggers are to be used they must be properly trained and equipped at all times.



Only stop/slow paddles are allowed while flagging on state right-of-way

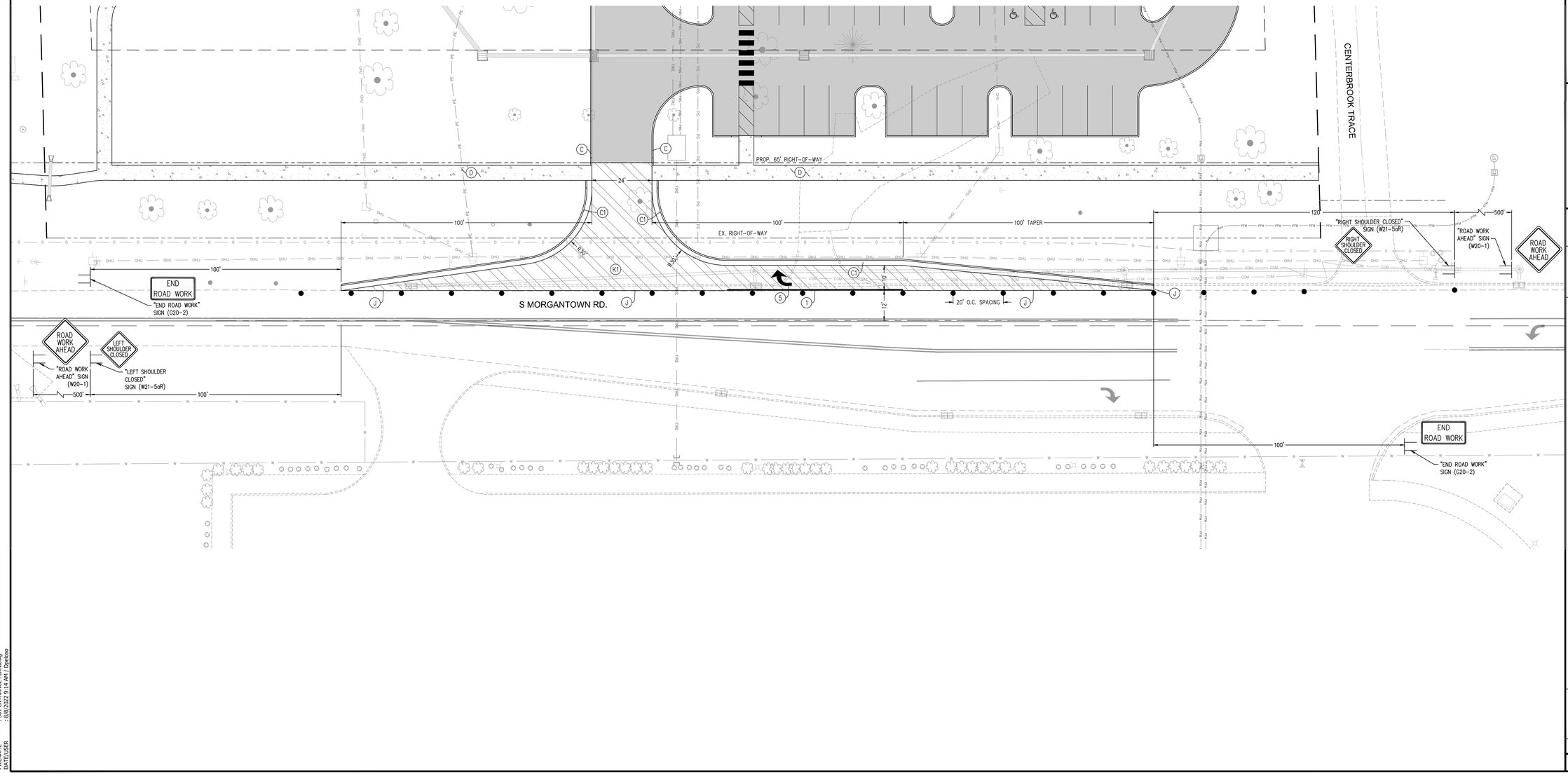


FRONT VIEW SIDE VIEW

TYPICAL SIGN STANDARD AND ROAD CLOSURE SIGN ASSEMBLY
NOT TO SCALE

MAINTENANCE OF TRAFFIC NOTES:

1. CONTRACTOR SHALL CONDUCT ALL ROAD CONSTRUCTION AND SURFACING OPERATIONS WHILE MAINTAINING TRAFFIC. CONTRACTOR SHALL UTILIZE FLAGGERS AS NECESSARY DURING CONSTRUCTION OPERATIONS. CONSTRUCTION SHALL BE SEQUENCED SO THAT TWO-WAY TRAFFIC CAN BE RESUMED BY THE END OF CONSTRUCTION EACH WORK DAY.
2. ALL CONSTRUCTION TRAFFIC CONTROL MEASURES SHALL BE EXECUTED IN ACCORDANCE WITH THE LATEST EDITION OF THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES."



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FILENAME : 301 ENTRANCE PLAN.dwg
DATE/USER : 8/30/2022 9:14 AM / Dpalooo

CROSSROAD ENGINEERS, PC
Transportation & Development Consultants
115 N. 17th AVENUE, BEECH GROVE, IN 46107 (317) 780-1555

SHEET 301

ENTRANCE PLAN & MAINTENANCE OF TRAFFIC

CENTER GROVE WELLNESS CENTER

JOB No.	.	DRAWN	DEP	CHECKED	TEN
DATE	AUGUST 9, 2022	DESIGNED	CDM	APPR.	GJI

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

NO.	DATE	REVISIONS	BY	APPR.
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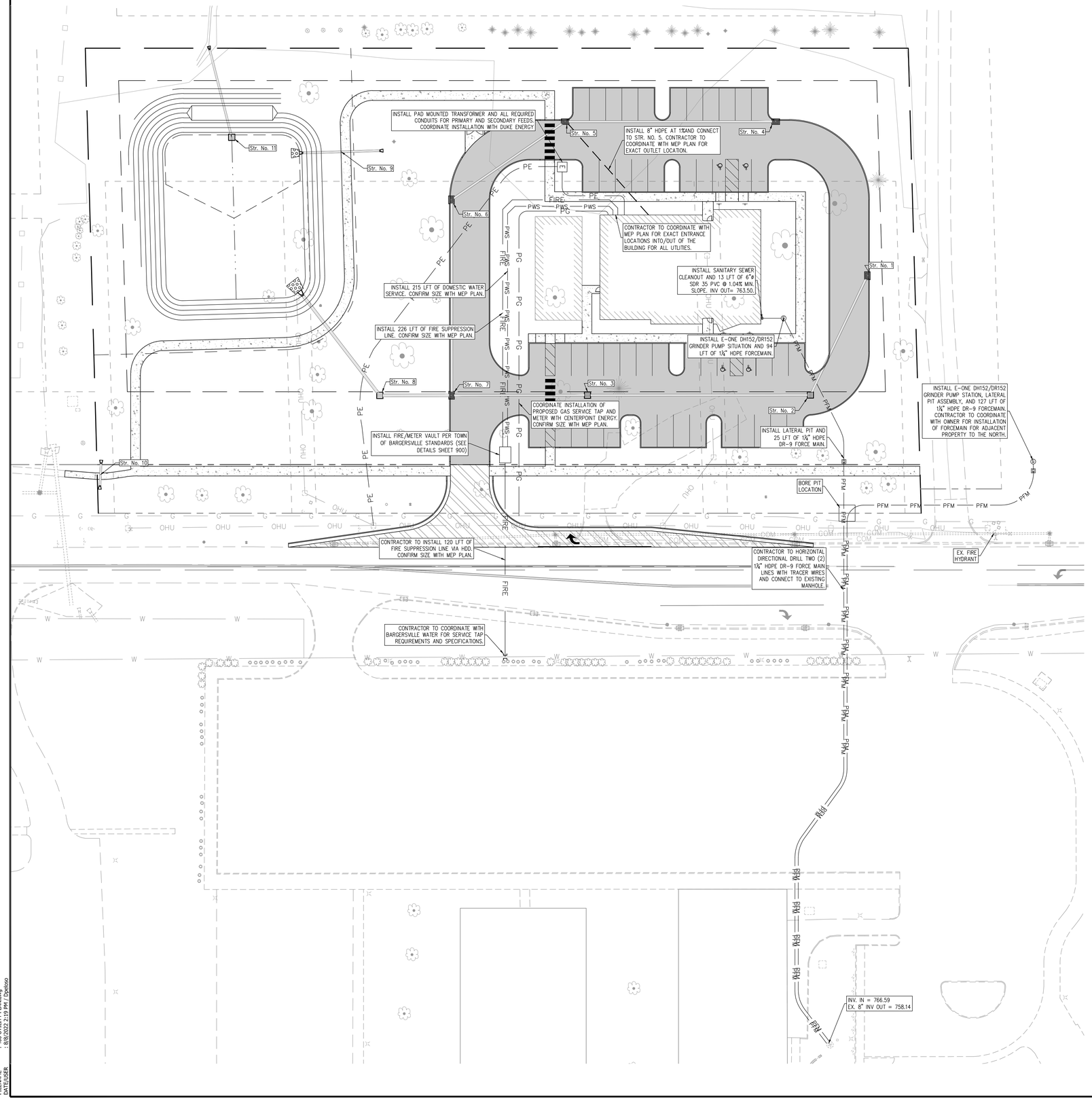
SHEET 301



North

20 0 20 40

SCALE: 1" = 20'

EXISTING LEGEND

- POWERPOLE
- POWERPOLE W/RISER
- ELECTRIC BOX
- GUIDE WIRE
- WATER VALVE
- FIRE HYDRANT
- WATER METER
- GAS VALVE
- GAS VALVE
- CLEANOUT
- SIGN
- MAILBOX
- STORM ROUND INLET
- STORM CURB INLET
- TREE, BUSH & STUMP
- TEMP. BENCHMARK
- MONUMENT FOUND
- CONTOURS
- PROPERTY LINE
- SECTION LINE
- RIGHT-OF-WAY
- EASEMENT
- ADJOINER LINE
- PAVEMENT LINE
- PRIVACY FENCE
- DITCH
- GAS LINE
- TELEPHONE LINE
- WATER LINE
- OVERHEAD UTILITY LINE
- TREE LINE
- SANITARY SEWER W/MANHOLE
- STORM SEWER W/ MANHOLE & END SECTION
- ASPHALT
- CONCRETE
- GRAVEL

PROPOSED LEGEND

- PROPERTY LINE
- SECTION LINE
- PHASE LINE
- SETBACK LINE
- EASEMENT LINE
- FENCE LINE
- DITCH LINE
- SANITARY SEWER WITH MANHOLE
- SANITARY SEWER LATERAL WITH CLEANOUT
- STORM SEWER W/MANHOLE & END SECTION
- ELECTRIC LINE
- WATER LINE
- WATER SERVICE LINE
- GAS LINE
- STORM MANHOLES
- STORM INLETS
- STORM CURB INLETS
- AQUA-SWIRL UNITS
- WATER TEE
- 45° BEND
- 22.5° BEND
- 11.25° BEND
- TAPPING SLEEVE
- WATER VALVE
- FIRE HYDRANT
- WATER REDUCER
- STORTZ FDC
- WATER PLUG
- WATER VAULT
- ELECTRIC TRANSFORMER
- GENERATOR
- GREASE TRAP
- LIGHT POLE
- YARD LIGHT
- SIGN
- GRANULAR BACKFILL ALONG STORM SEWER LINE
- GRANULAR BACKFILL ALONG SANITARY SEWER LINE

UTILITIES NOTES

1. CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING WITH APPLICABLE UTILITY COMPANIES FOR ALL SERVICE DIS-CONNECTS.
2. CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING TRAFFIC AND PROVIDING ALL NECESSARY FLAGMAN, BARRELS, SIGNAGE, ETC. DURING CONSTRUCTION. ALL APPLICABLE M.U.T.C.D. STANDARDS SHALL GOVERN THIS WORK.
3. CONTRACTOR SHALL COORDINATE WITH APPLICABLE UTILITY COMPANIES AND BUILDING PLANS FOR WATER, CABLE, ELECTRIC, AND TELEPHONE CONNECTION SERVICE POINTS.
4. CONTRACTOR TO COORDINATE WITH DUKE ENERGY FOR NECESSARY ELECTRIC SERVICE REQUIREMENTS AND SPECIFICATIONS, AND BUILDING PLANS FOR ALL SERVICE POINTS AT EACH BUILDING.
5. ALL FIELD TILES DISTURBED DURING CONSTRUCTION MUST BE REPAIRED/CONNECTED TO NEW DRAINAGE FACILITIES.
6. EXISTING UTILITY SIZE AND MATERIAL INFORMATION SHOWN ON THESE PLANS ARE PER THE BEST GRAPHICAL AND VISIBLE INFORMATION AVAILABLE. CONFLICTS MAY EXIST AND IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO FIELD VERIFY ALL SIZING AND MATERIAL INFORMATION PROVIDED. IF ACTUAL CONDITIONS DIFFER FROM THAT INFORMATION SHOWN ON THE PLANS, THE CONTRACTOR SHALL PRIOR TO THE INSTALLATION OF ANY PROPOSED INFRASTRUCTURE, NOTIFY THE DESIGN ENGINEER IMMEDIATELY.
7. CONTRACTOR TO CONFIRM DOMESTIC WATER SERVICE AND METER SIZE WITH ARCHITECTURAL PLANS PRIOR TO INSTALLATION.
8. CONTRACTOR TO CONFIRM SIZE OF ELECTRICAL CONDUIT WITH DUKE ENERGY AND ARCHITECTURAL PLANS. CONDUIT SHALL BE INSTALLED BENEATH PAVEMENT WITH 36" SWEEPS AND PULL STRING AS NECESSARY PER DUKE ENERGY REQUIREMENTS.

STORM SEWER STRUCTURE TABLE	STORM SEWER STRUCTURE TABLE
STR. DATA	STR. DATA
STR. NO. 1 INSTALL TYPE 'B' INLET WITH NEENAH R-3287-10V CASTING OR APPROVED EQUAL AND 82 LFT OF 12"ø RCP @ 0.31% RIM=764.56 INV OUT (12"-SE)=759.81	**STR. NO. 6** INSTALL TYPE 'B' INLET WITH NEENAH R-3287-10V CASTING OR APPROVED EQUAL AND 121 LFT OF 15"ø RCP @ 0.30% RIM=762.08 INV IN (12"-NW)=759.07 INV OUT (15"-E)=759.07
STR. NO. 2 INSTALL TYPE 'E' INLET WITH NEENAH R-1878-A9G CASTING OR APPROVED EQUAL AND 138 LFT OF 12"ø RCP @ 0.31% RIM=765.26 INV IN (12"-NW)=759.56 INV OUT (12"-S)=759.56	**STR. NO. 7** INSTALL TYPE 'B' INLET WITH NEENAH R-3287-10V CASTING OR APPROVED EQUAL AND 44 LFT OF 18"ø RCP @ 0.45% RIM=765.36 INV IN (15"-W)=758.71 INV IN (12"-N)=758.71 INV OUT (18"-S)=758.71
STR. NO. 3 INSTALL TYPE 'E' INLET WITH NEENAH R-1878-A9G CASTING OR APPROVED EQUAL AND 85 LFT OF 12"ø RCP @ 0.50% RIM=765.38 INV IN (12"-N)=759.13 INV OUT (12"-S)=759.13	**STR. NO. 8** INSTALL TYPE 'E' INLET WITH NEENAH R-4215-C CASTING OR APPROVED EQUAL AND 81 LFT OF 18"ø RCP @ 0.50% RIM=763.50 INV IN (18"-N)=758.51 INV OUT (18"-SW)=758.51 D.S. ELEV. = 758.10
STR. NO. 4 INSTALL TYPE 'B' INLET WITH NEENAH R-3287-10V CASTING OR APPROVED EQUAL AND 130 LFT OF 12"ø RCP @ 0.31% RIM=765.39 INV OUT (12"-S)=760.02	**STR. NO. 11** INSTALL TYPE 'E' INLET OUTLET STRUCTURE WITH NEENAH R-4215-C CASTING OR APPROVED EQUAL AND 58 LFT OF 12"ø RCP @ 1.33% RIM=761.00 INV OUT (12"-W)=755.00 D.S. ELEV. = 754.23 SEE DETAIL SHEET 600 FOR ORIFICE INFORMATION
STR. NO. 5 INSTALL TYPE 'B' INLET WITH NEENAH R-3287-10V CASTING OR APPROVED EQUAL AND 86 LFT OF 12"ø RCP @ 0.65% RIM=763.60 INV IN (12"-N)=759.62 INV OUT (12"-SE)=759.62	

STORM CULVERT DATA TABLE
STR. DATA CULVERT
STR. NO. 9 INSTALL TWO (2) CONCRETE END SECTIONS AND 52 LFT OF 12"ø RCP @ 0.31% U.S. EL=757.66 D.S. EL=757.50
STR. NO. 10 INSTALL TWO (2) CONCRETE END SECTIONS AND 18 LFT OF 12"ø RCP @ 2.78% U.S. EL=763.45 D.S. EL=762.95

CROSSROAD ENGINEERS, PC
Transportation & Development Consultants
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SHEET 400

UTILITY PLAN

CENTER GROVE WELLNESS CENTER

JOB No.	DRAWN	CHECKED	DESIGNED	APPR.
.	DEP	TEN	CDM	GJI

DATE AUGUST 9, 2022

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

NO.	DATE	REVISIONS	BY	APPR.
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SHEET 400

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DATE/USER : 8/8/2022 2:19 PM / Dpeloso

GRADING LEGEND

860.00 TOP OF CURB 859.50 EDGE OF PAVEMENT	PROPOSED ELEVATIONS
860.00 FINISH GRADE	
860.00 * 859.50 *	PROPOSED ELEVATIONS (TO BE FIELD VERIFIED)
860.00 *	
FFE = XXX.XX	PROPOSED FINISH FLOOR ELEVATION
	PROPOSED DRAINAGE SWALE
800	EXISTING CONTOURS
800	PROPOSED CONTOURS
GRADE BREAK	GRADE BREAK
	CURB HEIGHT TO TAPER FROM 0.5" TO 0.0" IN 3 LFT.

GRADING NOTES

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

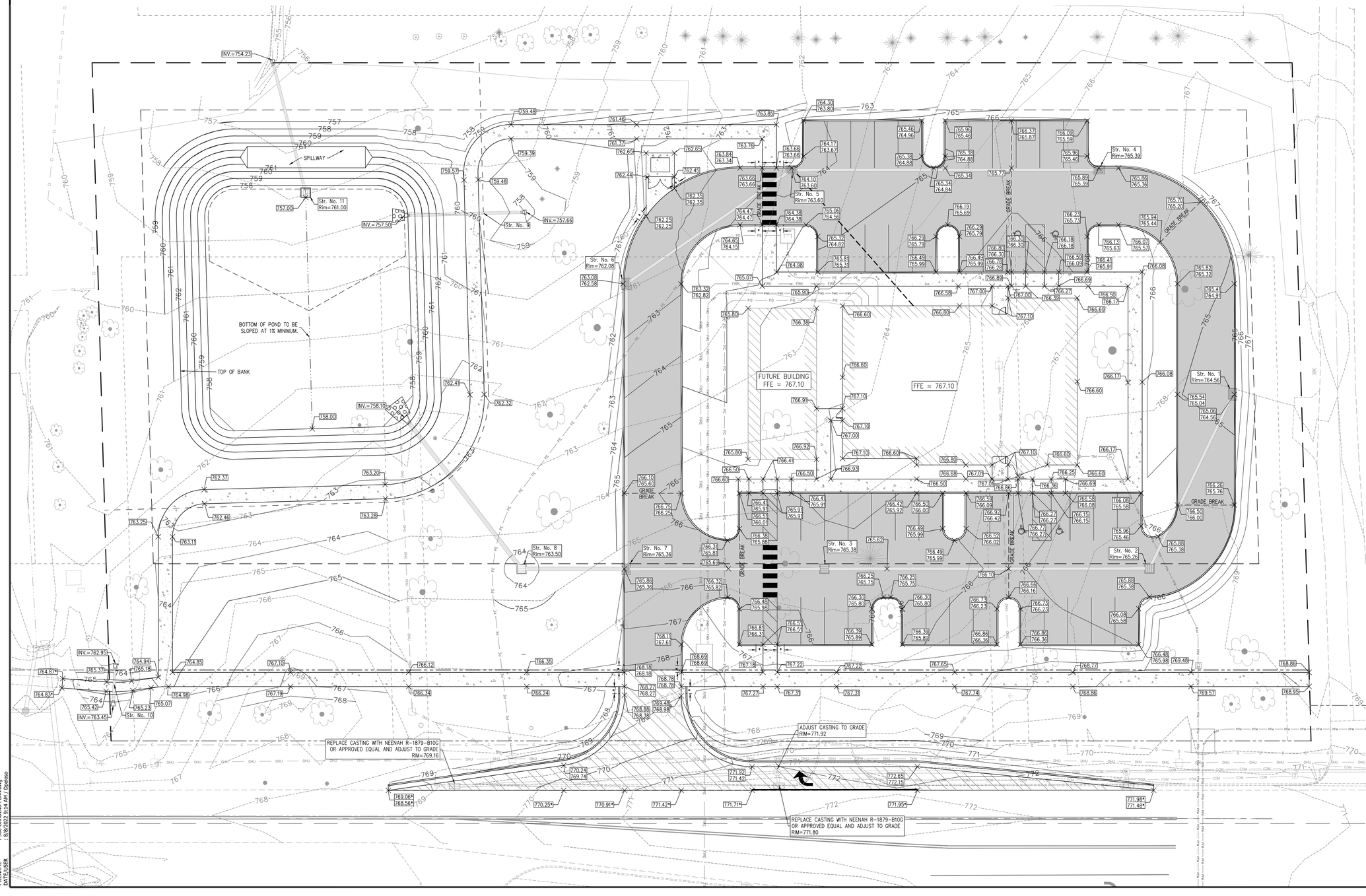
BENCHMARK INFORMATION

ORIGINATING BENCHMARK #1
DESIGNATION - X 13
PID - KA0010
STATE/COUNTY - IN/MORGAN
USGS QUAD - MOORESVILLE EAST (1980)
VERT ORDER - FIRST CLASS II

DESCRIBED BY COAST AND GEODETIC SURVEY 1946
1.2 MI N FROM WAVERLY, IN JOHNSON COUNTY, 1.2 MILES NORTH ALONG STATE HIGHWAY 37 FROM THE INTERSECTION OF STATE HIGHWAY 144 AT WAVERLY, MORGAN COUNTY, 125 YARDS NORTH OF THE MORGAN-JOHNSON COUNTY LINE, 26 FEET WEST OF THE CENTERLINE OF THE HIGHWAY, IN LINE WITH THE WEST RIGHT-OF-WAY FENCE, 1.5 FEET SOUTH OF A WHITE WOODEN WITNESS POST, AND ABOUT 2 FEET HIGHER THAN THE HIGHWAY. A STANDARD DISK, STAMPED 686.370 X 13 1930 AND SET IN THE TOP OF A CONCRETE POST PROJECTING 7 INCHES ABOVE GROUND.
RECOVERY NOTE BY IN DEPT OF NAT RES 1985
NEW DESC- AT THE INTERSECTION OF NEW STATE ROAD 144 AND OLD STATE ROAD 37, IN THE SOUTHWEST QUARTER OF THE INTERSECTION, WITNESS POST IS GONE RIGHT-OF-WAY FENCE IS GONE, ALL OTHER INFORMATION APPEARS TO BE CORRECT.

ELEVATION = 685.94 (NAVD 88)

NORTH
20 0 20 40
SCALE: 1" = 20'



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115 N. 17th AVENUE, BEECH GROVE, IN 46107 (317) 780-1555

SHEET 500

GRADING PLAN

CENTER GROVE WELLNESS CENTER

JOB No.	.	DRAWN	DEP	CHECKED	TEN	APPR.	CJI
DATE	AUGUST 9, 2022	DESIGNED	CDM				

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

NO.	DATE	REVISIONS	BY	APPR.
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SHEET 500

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

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

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

PROPOSED LEGEND

- PROPERTY LINE
- SECTION LINE
- PHASE LINE
- SETBACK LINE
- EASEMENT LINE
- FENCE LINE
- DITCH LINE
- SANITARY SEWER WITH MANHOLE
- SANITARY SEWER LATERAL WITH CLEANOUT
- STORM SEWER W/MANHOLE & END SECTION
- ELECTRIC LINE
- WATER LINE
- WATER SERVICE LINE
- GAS LINE
- STORM MANHOLES
- STORM INLETS
- STORM CURB INLETS
- AQUA-SWIRL UNITS
- WATER TEE
- 45° BEND
- 22.5° BEND
- 11.25° BEND
- TAPPING SLEEVE
- WATER VALVE
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- WATER PLUG
- WATER VAULT
- ELECTRIC TRANSFORMER
- GENERATOR
- GREASE TRAP
- LIGHT POLE
- YARD LIGHT
- SIGN
- GRANULAR BACKFILL ALONG STORM SEWER LINE
- GRANULAR BACKFILL ALONG SANITARY SEWER LINE

BENCHMARK INFORMATION

ORIGINATING BENCHMARK #1
DESIGNATION – X 13
PID – KA0010
STATE/COUNTY – IN/MORGAN
USGS QUAD – MOORESVILLE EAST (1980)
VERT ORDER – FIRST CLASS II

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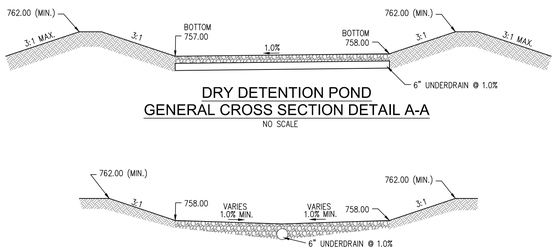
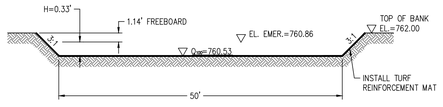
ELEVATION = 685.94 (NAVD 88)

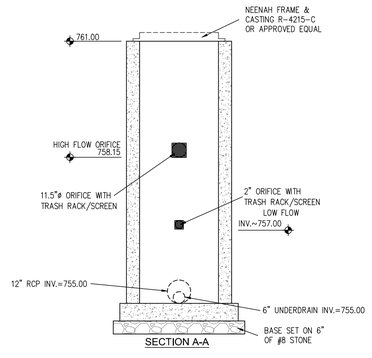


DRY DETENTION POND
GENERAL CROSS SECTION DETAIL A-A
NO SCALE

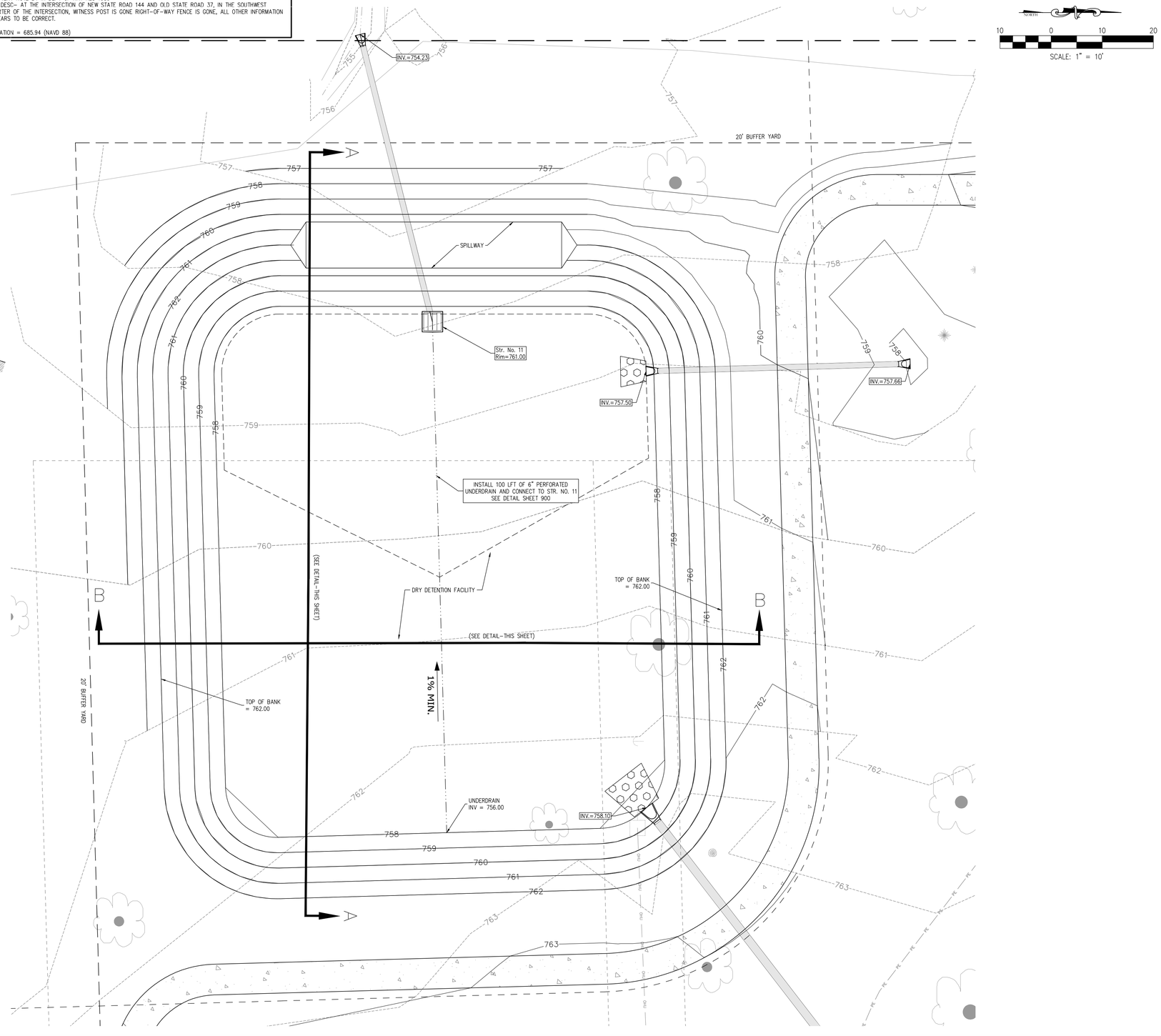
DRY DETENTION POND
GENERAL CROSS SECTION DETAIL B-B
NO SCALE



EMERGENCY SPILLWAY DETAIL
NO SCALE



DETENTION OUTLET STRUCTURE
STR. NO. 11
NOT TO SCALE



NORTH
10 0 10 20
SCALE: 1" = 10'

CROSSROAD ENGINEERS, PC
Transportation & Development Consultants
115 N. 17th AVENUE, BEECH GROVE, IN 46107 (317) 780-1555

SHEET 600

DRAINAGE PLAN

CENTER GROVE WELLNESS CENTER

JOB No.	.	DRAWN	DEP	CHECKED	TEN	APPR.	GJI
DATE	AUGUST 9, 2022	DESIGNED	CDM				

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

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SHEET 600

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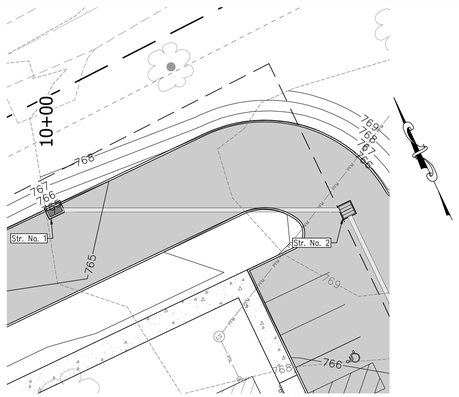
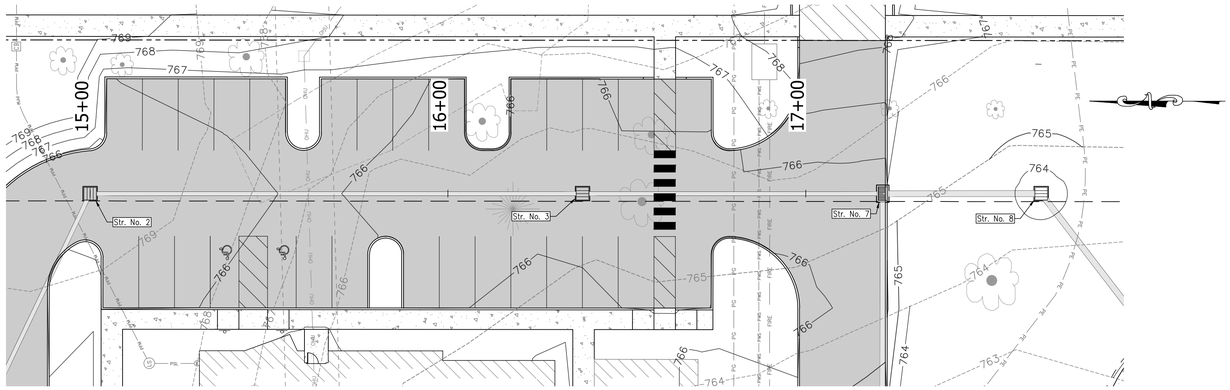
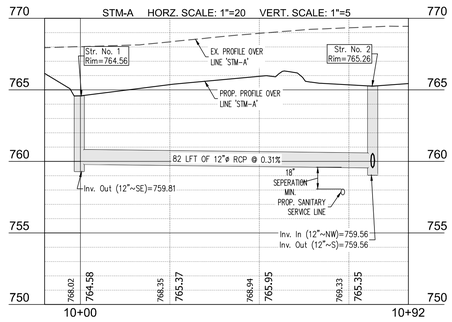
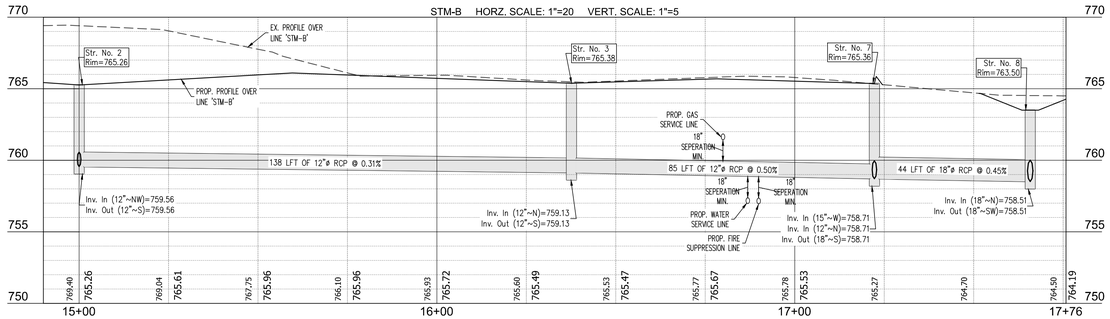
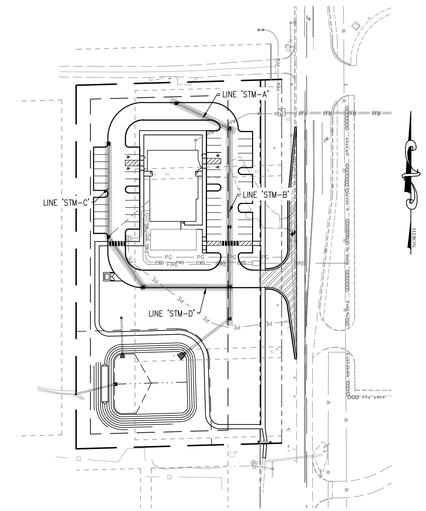






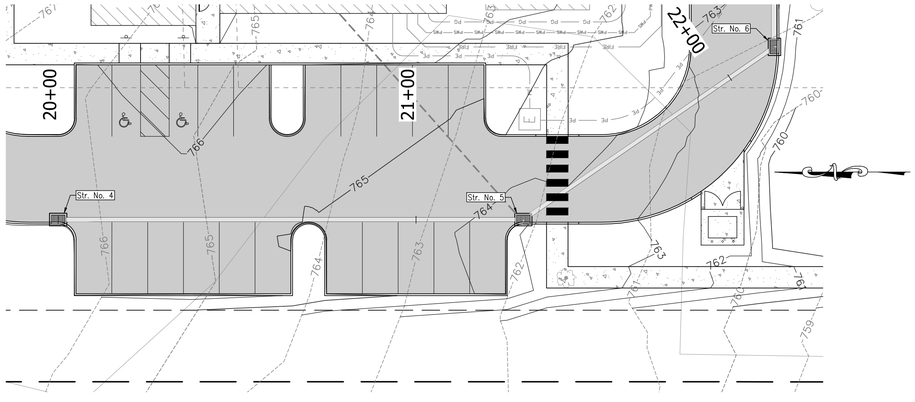


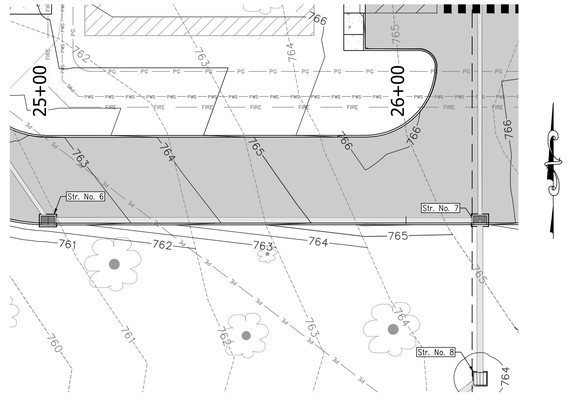


KEYMAP

NO SCALE

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





STORM SEWER STRUCTURE TABLE	
STR. DATA	
STR. NO. 1 INSTALL TYPE 'B' INLET WITH NEENAH R-3287-10V CASTING OR APPROVED EQUAL AND 82 LFT OF 12"ø RCP @ 0.31% RIM=764.56 INV OUT (12"~SE)=759.81	**STR. NO. 6** INSTALL TYPE 'B' INLET WITH NEENAH R-3287-10V CASTING OR APPROVED EQUAL AND 121 LFT OF 15"ø RCP @ 0.30% RIM=762.08 INV IN (12"~NW)=759.07 INV OUT (15"~E)=759.07
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PROPOSED LEGEND

- PROPERTY LINE
- SECTION LINE
- PHASE LINE
- SETBACK LINE
- EASEMENT LINE
- FENCE LINE
- DITCH LINE
- SANITARY SEWER WITH MANHOLE
- SANITARY SEWER LATERAL WITH CLEANOUT
- STORM SEWER W/MANHOLE & END SECTION
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- WATER SERVICE LINE
- GAS LINE
- STORM MANHOLES
- STORM INLETS
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- AQUA-SWIRL UNITS
- WATER TEE
- 45° BEND
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- TAPPING SLEEVE
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- FIRE HYDRANT
- WATER REDUCER
- STORTZ FDC
- WATER PLUG
- WATER VAULT (WV)
- ELECTRIC TRANSFORMER (E)
- GENERATOR (G)
- GREASE TRAP
- LIGHT POLE
- YARD LIGHT
- SIGN
- GRANULAR BACKFILL ALONG STORM SEWER LINE
- GRANULAR BACKFILL ALONG SANITARY SEWER LINE

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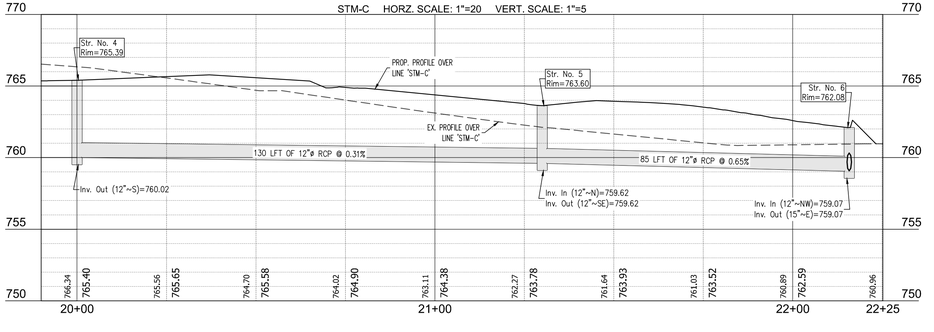
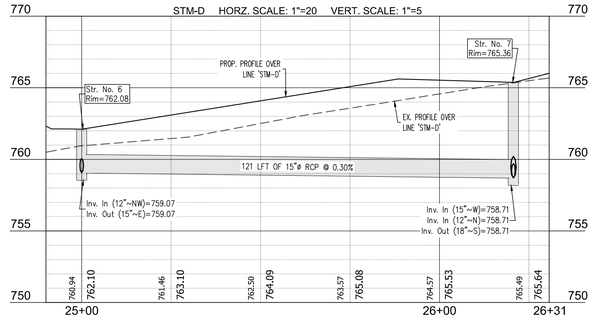
SCALE: 1" = 20'





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

DIRECTORY PATH : R:\Active\Center Grove Community School Corporation\Wellness Center\Design\CAD\Plans
FILENAME : 700 STORM PLAN & PROFILE.dwg
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CROSSROAD ENGINEERS, PC
Transportation & Development Consultants
115 N. 17th AVENUE, BEECH GROVE, IN 46107 (317) 780-1555

SHEET 700

STORM PLAN & PROFILE

CENTER GROVE WELLNESS CENTER

JOB No.	.	DRAWN	DEP	CHECKED	TEN	APPR.	GJI
DATE	AUGUST 9, 2022	DESIGNED	CDM				

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

NO.	DATE	REVISIONS	BY	APPR.
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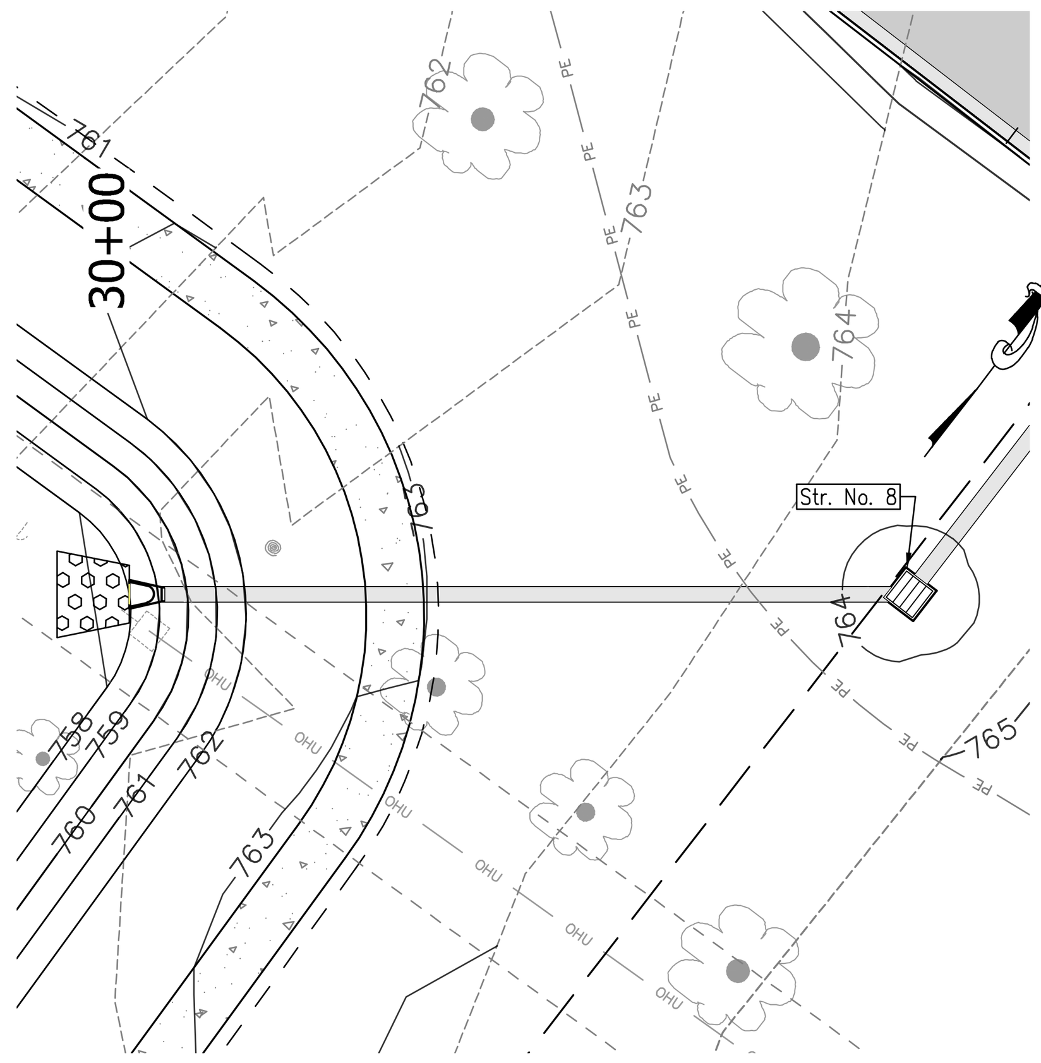
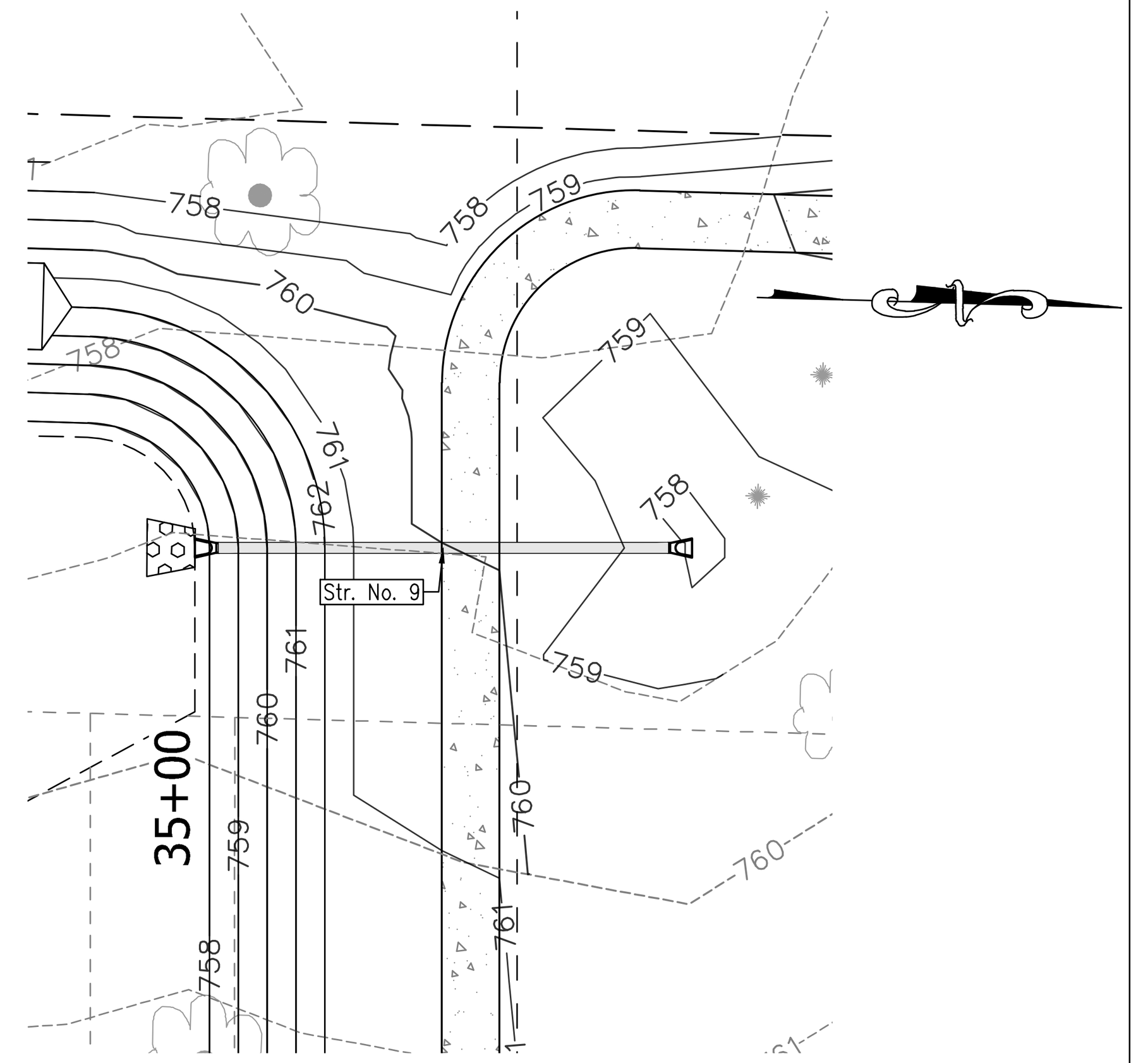
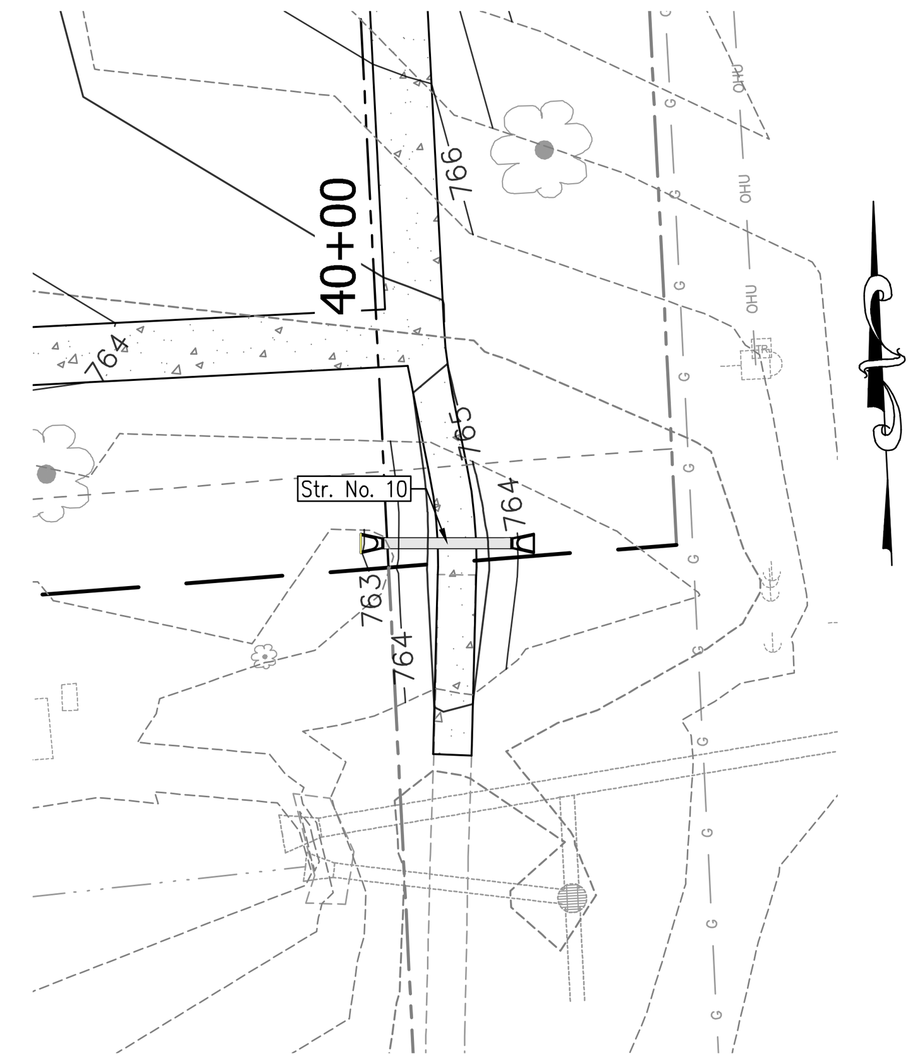
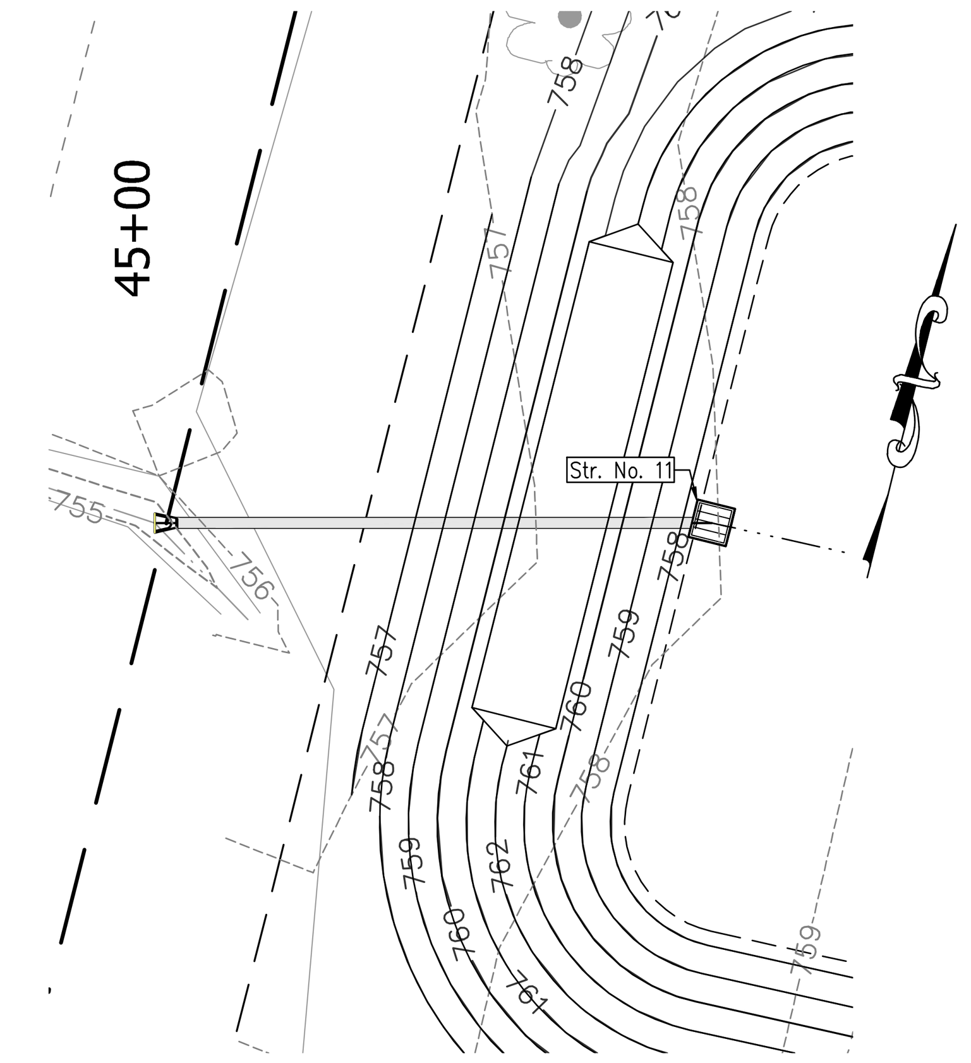
SHEET 700

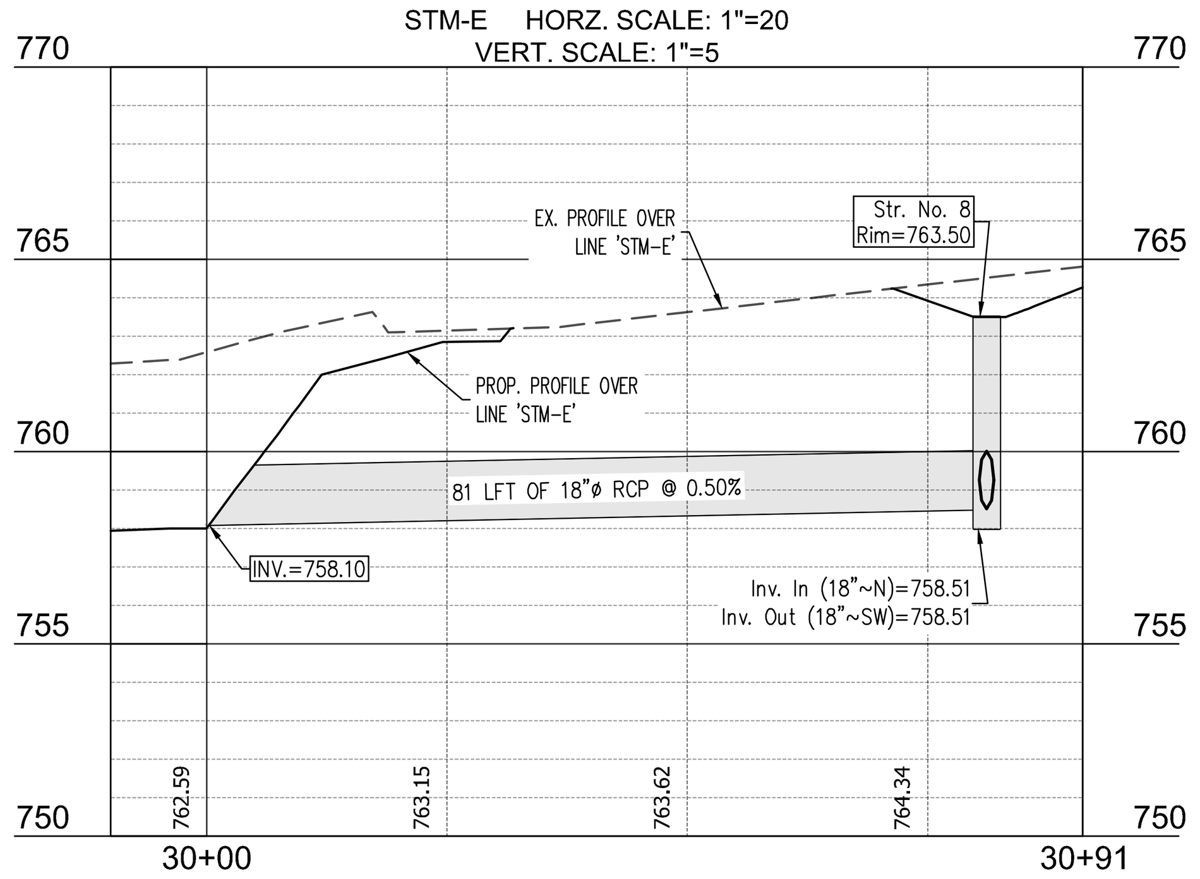








STM-E HORZ. SCALE: 1"=20
VERT. SCALE: 1"=5



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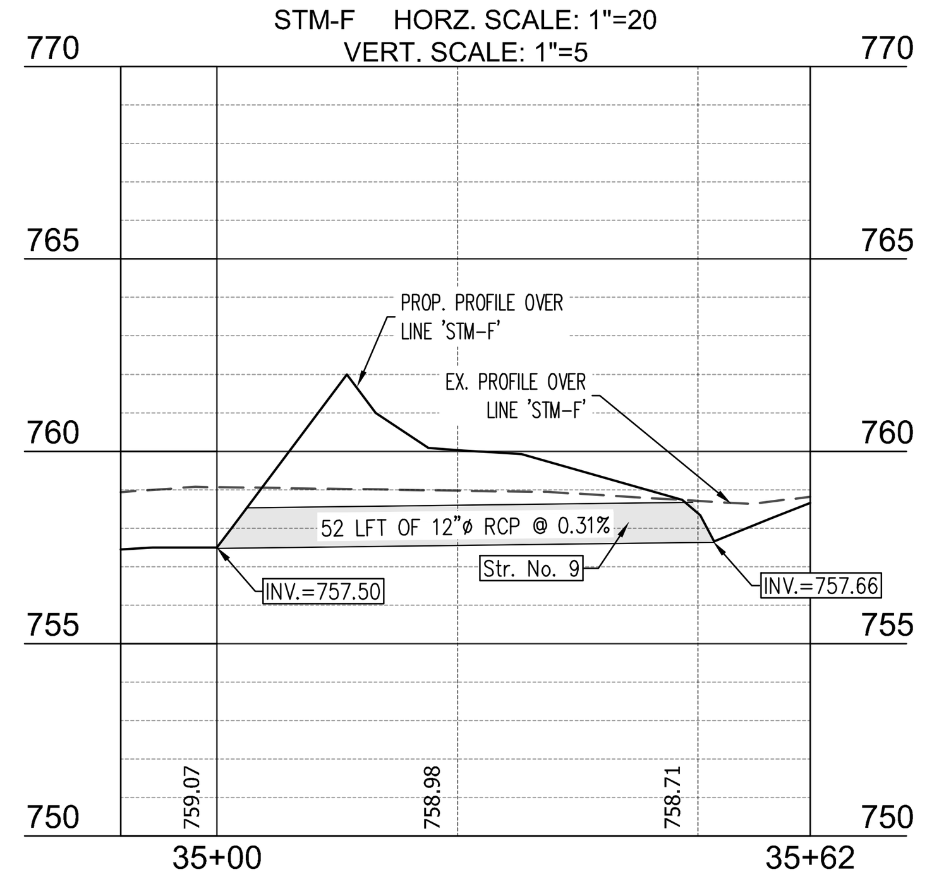

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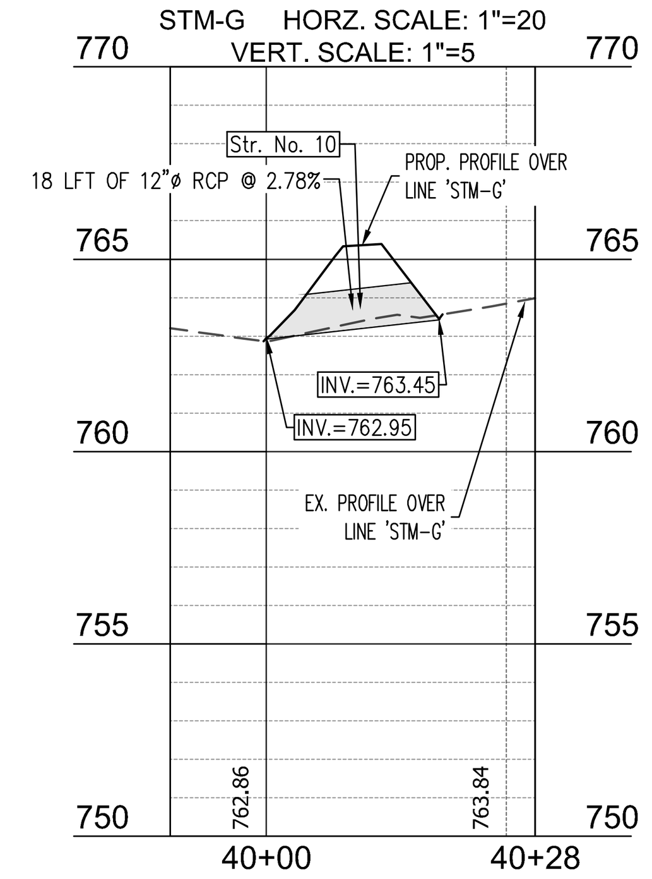

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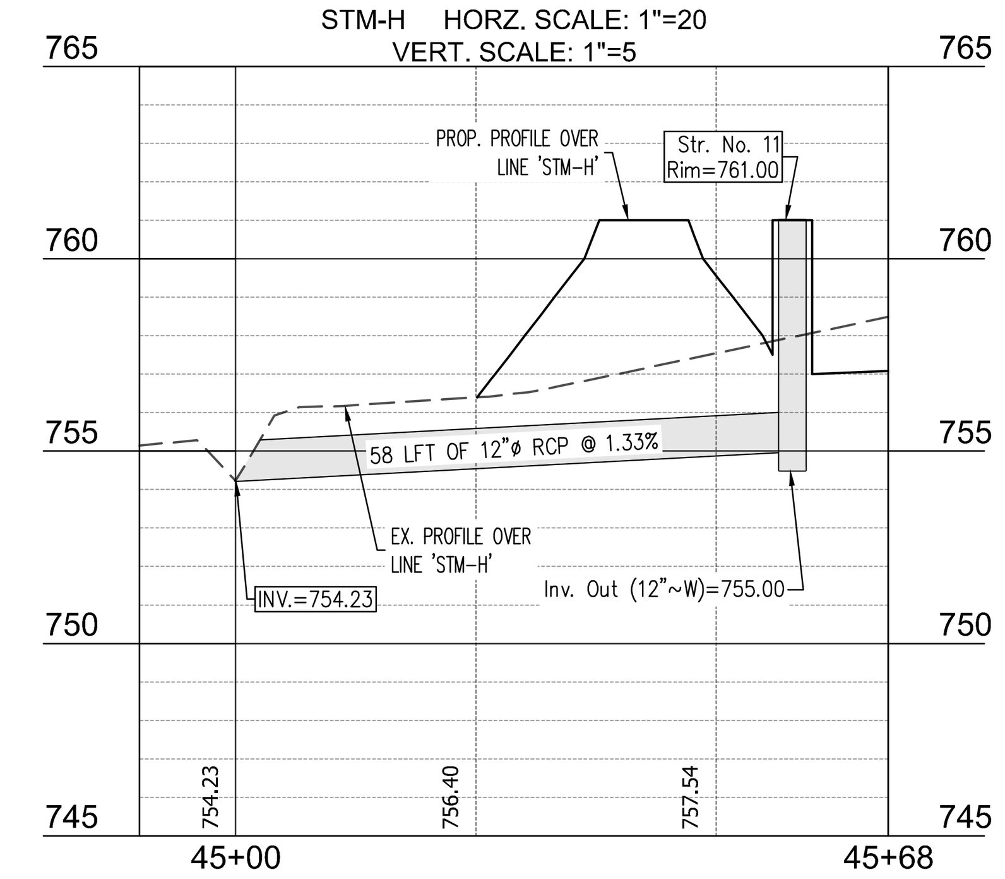

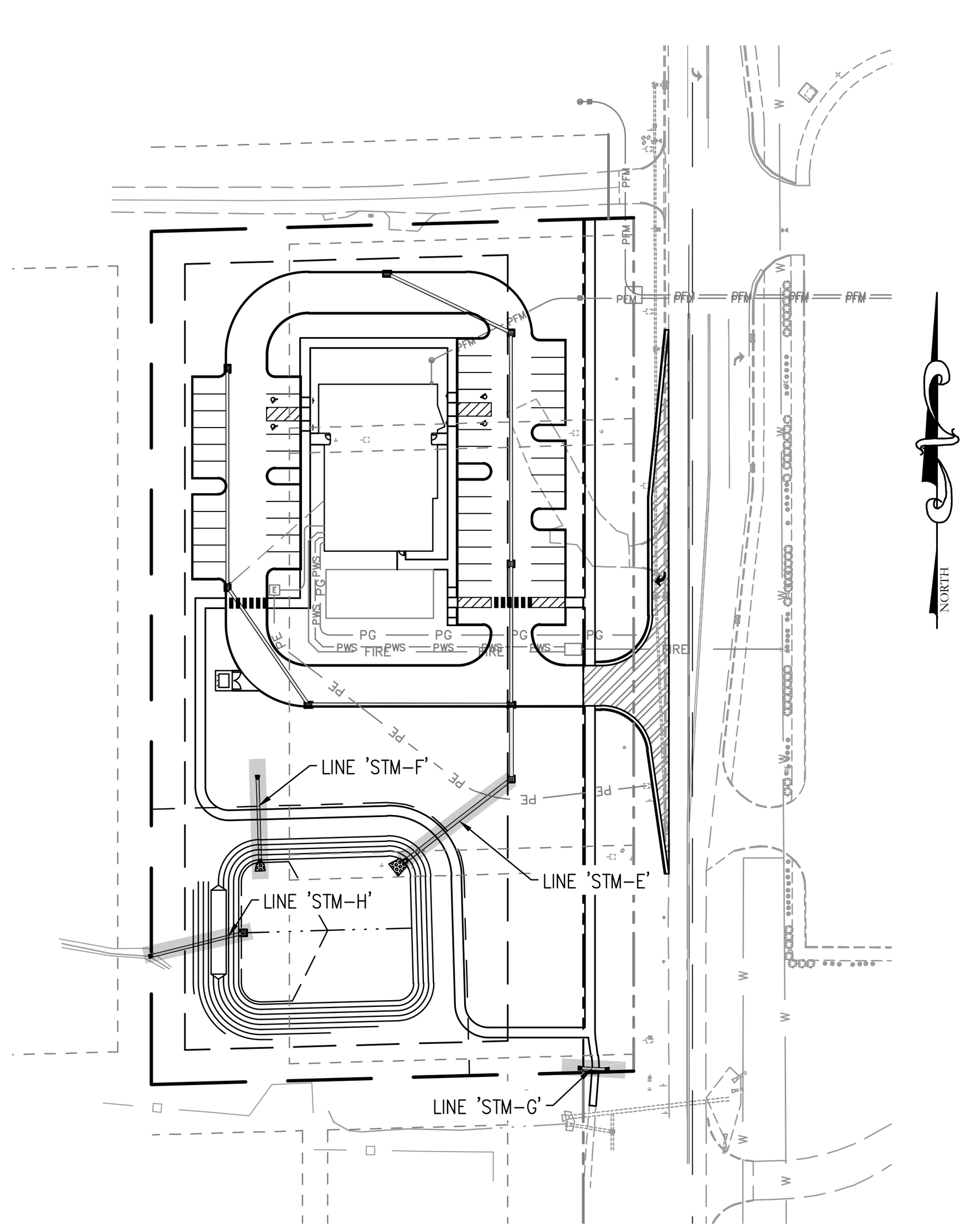

KEYMAP
NO SCALE

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

STORM CULVERT DATA TABLE
STR. DATA CULVERT
STR. NO. 9 INSTALL TWO (2) CONCRETE END SECTIONS AND 52 LFT OF 12"ø RCP @ 0.31% U.S. EL=757.66 D.S. EL.=757.50
STR. NO. 10 INSTALL TWO (2) CONCRETE END SECTIONS AND 18 LFT OF 12"ø RCP @ 2.78% U.S. EL=763.45 D.S. EL.=762.95

STORM SEWER STRUCTURE TABLE
STR. DATA
STR. NO. 1 INSTALL TYPE 'B' INLET WITH NEENAH R-3287-10V CASTING OR APPROVED EQUAL AND 82 LFT OF 12"ø RCP @ 0.31% RIM=764.56 INV OUT (12"~SE)=759.81
STR. NO. 2 INSTALL TYPE 'E' INLET WITH NEENAH R-1878-A9G CASTING OR APPROVED EQUAL AND 138 LFT OF 12"ø RCP @ 0.31% RIM=765.26 INV IN (12"~NW)=759.56 INV OUT (12"~S)=759.56
STR. NO. 3 INSTALL TYPE 'E' INLET WITH NEENAH R-1878-A9G CASTING OR APPROVED EQUAL AND 85 LFT OF 12"ø RCP @ 0.50% RIM=765.38 INV IN (12"~N)=759.13 INV OUT (12"~S)=759.13
STR. NO. 4 INSTALL TYPE 'B' INLET WITH NEENAH R-3287-10V CASTING OR APPROVED EQUAL AND 130 LFT OF 12"ø RCP @ 0.31% RIM=765.39 INV OUT (12"~S)=760.02
STR. NO. 5 INSTALL TYPE 'B' INLET WITH NEENAH R-3287-10V CASTING OR APPROVED EQUAL AND 86 LFT OF 12"ø RCP @ 0.65% RIM=763.60 INV IN (12"~N)=759.62 INV OUT (12"~SE)=759.62

STORM SEWER STRUCTURE TABLE
STR. DATA
STR. NO. 6 INSTALL TYPE 'B' INLET WITH NEENAH R-3287-10V CASTING OR APPROVED EQUAL AND 121 LFT OF 15"ø RCP @ 0.30% RIM=762.08 INV IN (12"~NW)=759.07 INV OUT (15"~E)=759.07
STR. NO. 7 INSTALL TYPE 'B' INLET WITH NEENAH R-3287-10V CASTING OR APPROVED EQUAL AND 44 LFT OF 18"ø RCP @ 0.45% RIM=765.36 INV IN (15"~W)=758.71 INV IN (12"~N)=758.71 INV OUT (18"~S)=758.71
STR. NO. 8 INSTALL TYPE 'E' INLET WITH NEENAH R-4215-C CASTING OR APPROVED EQUAL AND 81 LFT OF 18"ø RCP @ 0.50% RIM=763.50 INV IN (18"~N)=758.51 INV OUT (18"~SW)=758.51 D.S. ELEV. = 758.10
STR. NO. 11 INSTALL TYPE 'E' INLET OUTLET STRUCTURE WITH NEENAH R-4215-C CASTING OR APPROVED EQUAL AND 58 LFT OF 12"ø RCP @ 1.33% RIM=761.00 INV OUT (12"~W)=755.00 D.S. ELEV. = 754.23 SEE DETAIL SHEET 600 FOR ORIFICE INFORMATION

PROPOSED LEGEND

PROPERTY LINE
SECTION LINE
PHASE LINE
SETBACK LINE
EASEMENT LINE
FENCE LINE
DITCH LINE
SANITARY SEWER WITH MANHOLE
SANITARY SEWER LATERAL WITH CLEANOUT
STORM SEWER W/MANHOLE & END SECTION
ELECTRIC LINE
WATER LINE
WATER SERVICE LINE
GAS LINE
STORM MANHOLES
STORM INLETS
STORM CURB INLETS
AQUA-SWIRL UNITS
WATER TEE
45° BEND
22.5° BEND
11.25° BEND
TAPPING SLEEVE
WATER VALVE
FIRE HYDRANT
WATER REDUCER
STORTZ FDC
WATER PLUG
WV WATER VAULT
E ELECTRIC TRANSFORMER
G GENERATOR
GREASE TRAP
LIGHT POLE
YARD LIGHT
SIGN
▩ GRANULAR BACKFILL ALONG STORM SEWER LINE
▨ GRANULAR BACKFILL ALONG SANITARY SEWER LINE

20 0 20 40
SCALE: 1" = 20'

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

CROSSROAD ENGINEERS, PC
Transportation & Development Consultants
115 N. 17th AVENUE, BEECH GROVE, IN 46107 (317) 780-1555

SHEET 701

STORM PLAN & PROFILE

CENTER GROVE WELLNESS CENTER

JOB No.	.	DRAWN	DEP	CHECKED	TEN
DATE	AUGUST 9, 2022	DESIGNED	CDM	APPR.	GJI

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

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SHEET 701

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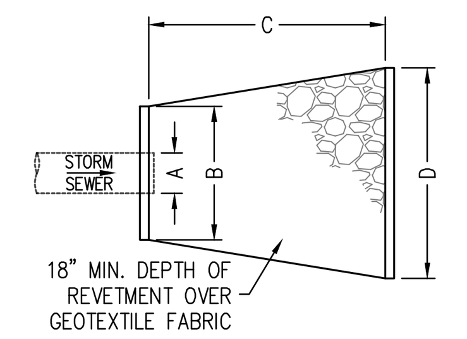

END SECTION RIPRAP APRON DIMENSIONS

NOT TO SCALE

PIPE OUTLET NO.	A	B	C	D	REVETMENT (TONS)	GEOTEXTILE (SYS)
8	18"	5'	6'	7.5'	4	8
9	12"	3'	4'	5'	2	5

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

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

NORTH

20 0 20 40

SCALE: 1" = 20'

EXISTING CONTOUR INTERVAL = 1'
PROPOSED CONTOUR INTERVAL = 1'

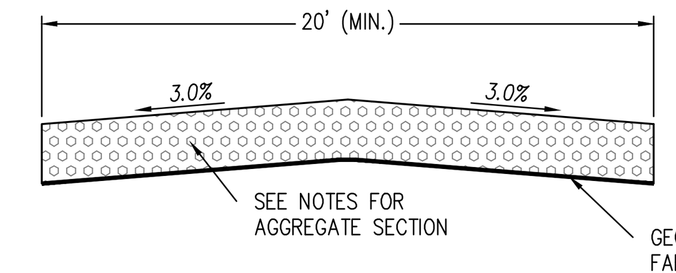
EROSION CONTROL LEGEND

▨	MULCHED SEEDING
▨	EROSION CONTROL BLANKET (NORTH AMERICAN GREEN SC-150 OR EQUAL) AND MULCHED SEEDING
▨	REVETMENT RIPRAP
▨	CONSTRUCTION DRIVE (SEE DETAIL THIS SHEET)
- - - 800 - - -	EXISTING CONTOURS
—— 800 ——	PROPOSED CONTOURS
—□——□—	SILT FENCE SLOPE CHECK (NUTEC 3 NWS-6 OR APPROVED EQUAL)
— — —	CONSTRUCTION LIMITS
(A)	CURB INLET PROTECTION (SEE DETAIL-SHEET 900)
(B)	CONCRETE WASHOUT AREA (SEE DETAIL-SHEET 900)
(C)	FABRIC DROP INLET PROTECTION (SEE DETAIL-SHEET 900)
(D)	ROCK DONUT (SEE DETAIL-SHEET 900)

EROSION CONTROL NOTES

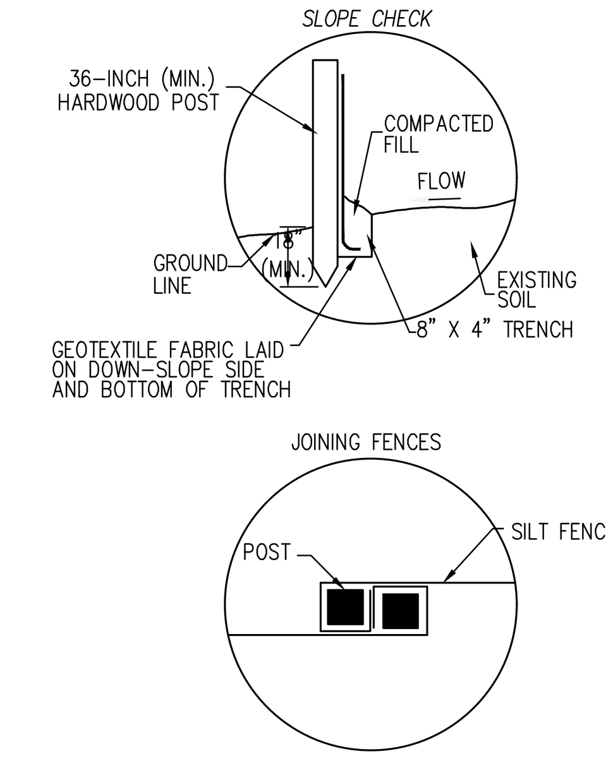
1. ADDITIONAL EROSION CONTROL MEASURES MAY BE REQUIRED BY STATE, COUNTY, OR LOCAL OFFICIALS.
2. ADDITIONAL EROSION CONTROL MEASURES MAY BE REQUIRED IN THE FIELD BY THE INSPECTOR.
3. THERE SHALL BE NO DIRT, DEBRIS, OR STORAGE OF MATERIALS IN THE STREET.
4. ALL STORM WATER CASTINGS SHALL BE PHASE II COMPLIANT.
5. STAGING AREA TO INCLUDE NOI POSTING, PORT-O-LETS, TRASH CONTAINER, AND FUELING TANKS. CONTRACTOR TO SELECT SUITABLE LOCATION FOR STAGING AREA.
6. ALL PORT-O-LETS MUST BE ANCHORED DOWN TO PREVENT SPILLS.
7. A TRAINED INDIVIDUAL MUST PERFORM AN INSPECTION ONCE A WEEK AND AFTER ½" OR MORE RAIN EVENT. A LOG OF THE INSPECTION REPORTS MUST BE KEPT AND MADE AVAILABLE TO THE CITY INSPECTOR UPON REQUEST.
8. ALL EROSION CONTROL PRACTICES SHALL BE IN ACCORDANCE WITH THE INDIANA STORM WATER QUALITY MANUAL.
9. THE CITY ENGINEER HAS THE RIGHT TO REQUIRE ADDITIONAL EROSION CONTROL MEASURES IN THE FIELD AS CONDITIONS WARRANT.
10. TOTAL DISTURBED ACREAGE FOR THIS PROJECT IS APPROXIMATELY 2.785 AC.
11. CONTRACTOR SHALL INSTALL ALL REQUIRED EROSION CONTROL MEASURES AT THE SELECTED DUMP SITE. ADDITIONAL EROSION CONTROL MEASURES MAY BE REQUIRED BY THE APPROPRIATE AUTHORITY IN THE FIELD.
12. THE TRAINED INDIVIDUAL RESPONSIBLE FOR ALL EROSION CONTROL MEASURE INSTALLATION AND MAINTENANCE IS: DARRELL THOMPSON, CENTER GROVE COMMUNITY SCHOOL CORP., 3653 WEST WHITELAND ROAD PHONE: (317) 881-0515.

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



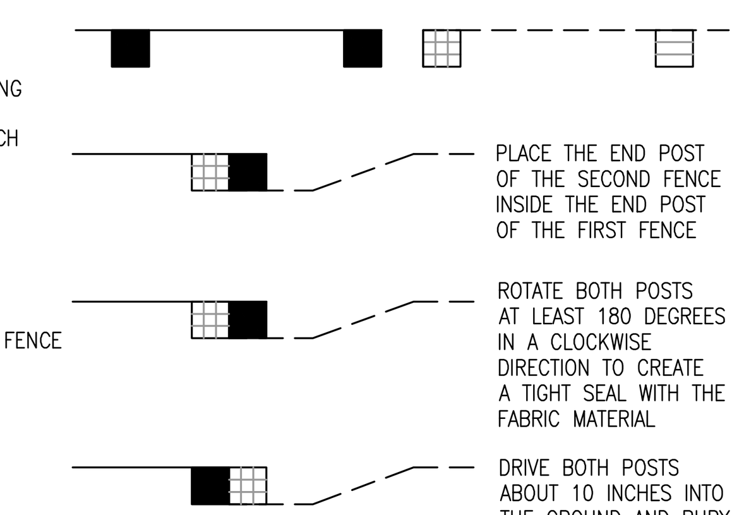
TEMPORARY CONSTRUCTION ENTRANCE DETAIL

NOT TO SCALE

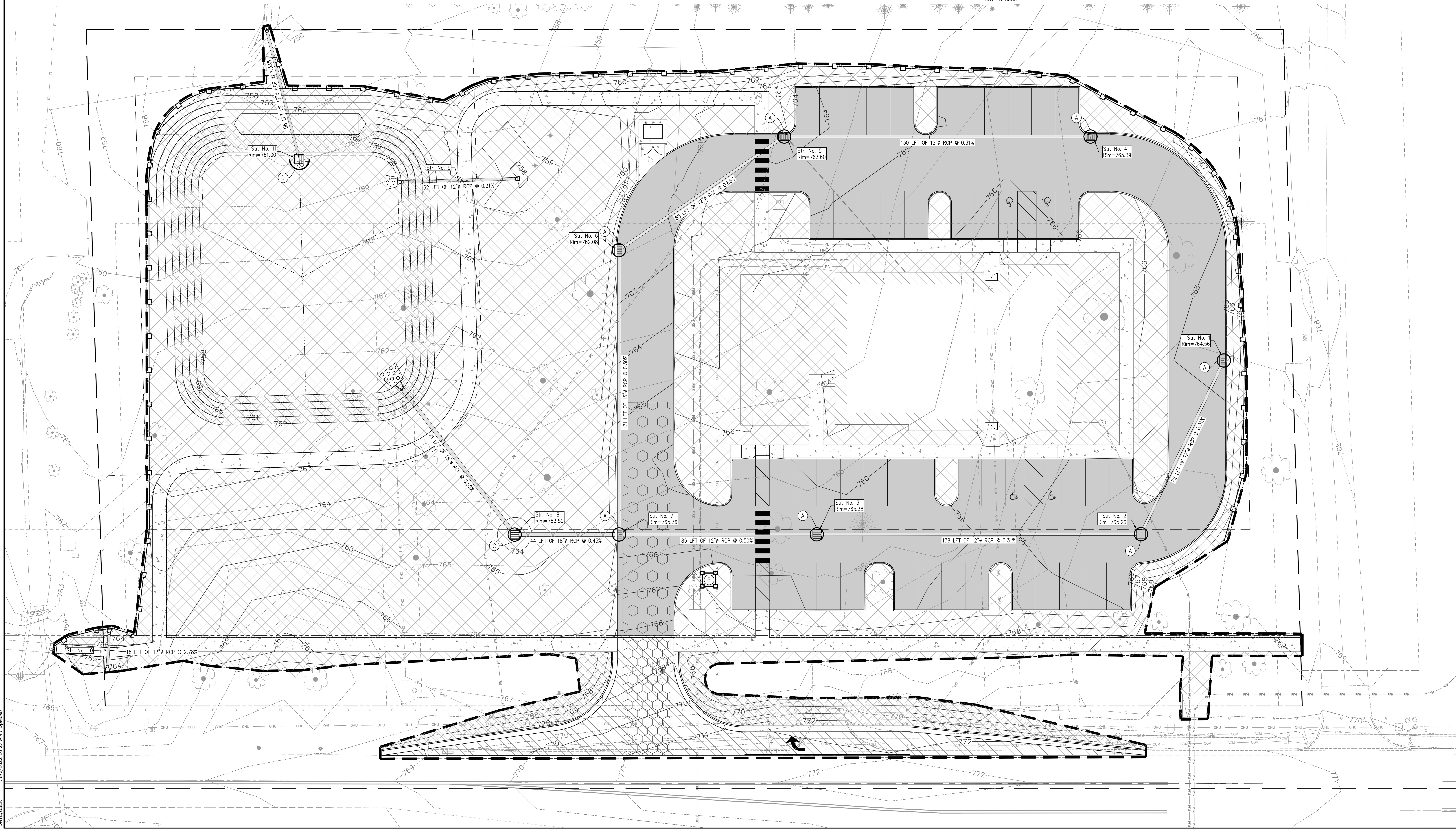


SILT FENCE DETAIL

NOT TO SCALE



ATTACHING TWO SILT FENCES



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Transportation & Development Consultants
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SWPPP PLAN

CENTER GROVE WELLNESS CENTER

JOB No.	.	DRAWN	DEP	CHECKED	TEN
DATE	AUGUST 9, 2022	DESIGNED	CDM	APPR.	GJI

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

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SHEET 800

EROSION CONTROL PLAN INDEX

PLAN ELEMENTS

A1

RULE 5 EROSION CONTROL PLAN INDEX							
ELEMENT	SHEET	ELEMENT	SHEET	ELEMENT	SHEET	ELEMENT	SHEET
A4	ECD801	A19	UTIL400	B4	ECP800 & ECD801	B12	ECP800 & ECD801
A5	ECD801	A21	ECP800	B5	ECP800 & ECD801	B13	ECD801
A6	ECP800	A22	ECP800	B6	ECP800 & ECD801	B14	ECD801
A15	ECP800	A23	ECP800	B7	ECP800 & ECD801		
A16	ECP800	B2	ECD801	B10	ECP800 & ECD801		
A18	ECD801	B3	ECD801	B11	ECP800 & ECD801		

A2 VICINITY MAP
A vicinity map depicting the project site location is located in right half of the Erosion Control Details.

A3 PROJECT NARRATIVE
The project involves the construction of new wellness center building, parking lot, detention facility, and utility infrastructure. The project is located along Morgantown Road ±300' north of the Morgantown Road and Pennington Road intersection. Streets, curbs, parking and walks necessary for the development shall be constructed as part of the construction plans herein. A storm sewer system shall be utilized for stormwater collection. Drainage will discharge into existing ditch located soutwest corner of the site. Water, sanitary, telephone, cable, gas, and electric utilities shall serve the property as well. Construction is anticipated to begin in the fall of 2022.

A4 LATITUDE & LONGITUDE
Latitude N 39°34'27" Longitude W 86°11'51"

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

A6 11 BY 17 INCH PLAT
The 11x17 inch Plat has been submitted to the respective Soils and Water Conservation District.

A7 100 YEAR FLOOD PLAINS, FLOODWAYS AND FLOODWAY FRINGES
By graphic plotting only, this tract of land described hereon lies within Zone 'X' (areas outside the 500–Year Floodplain) and is not in a Special Flood Hazard area as plotted on the Federal Emergency Management Agency Flood Insurance Rate Map for Johnson County, Indiana, Community Panel No. 18081C0105D, which bears an effective date of 08/02/2007.

A8 ADJACENT LAND USE
The adjacent landuses are Residential to the North, West, and South, as well as School to the East.

A9 DESCRIPTION OF TOTAL MAXIMUM DAILY LOAD (TMDL) REPORT
Name:
Location:
Pollutants Addressed:

A10 RECEIVING WATERS
The receiving water for this project is Honey Creek–Turkey Pen Creek.

A11 DESCRIPTION OF 303(d) LIST
Name:
Location:
Category:
Pollutants Addressed:

A12 SOILS MAP AND DESCRIPTIONS
The soils map and all pertinent soil type information are located on the upper right quadrant of the Erosion Control Details.

A13 WETLANDS, LAKES AND WATER COURSES.
There are no potential wetland areas located within the project site, nor shall any potential wetland areas be disturbed as a result of construction

A14 STATE AND/OR FEDERAL WATER QUALITY PERMITS
No State of Federal water quality permits are required for this project)

A15 EXISTING VEGETATIVE COVER
The existing site is grass lawn.

A16 EXISTING SITE TOPOGRAPHY
Existing one–foot contours are shown on the Erosion Control Plan.

A17 EXISTING RUN–OFF ENTRANCE AREA
xxxxxxxxxxxxxxxx.

A18 EXISTING RUN–OFF DISCHARGE AREA
xxxxxxxxxxxxxx.

A19 EXISTING STORMWATER SYSTEMS
The existing stormwater system sizes and dimensions are labeled on the Topographic Survey Plan.

A20 EXISTING RETENTION/DETENTION FACILITIES
xxxxxxxxxxxxxxxxxx.

A21 POTENTIAL DISCHARGES TO GROUND WATER
There are no potential locations where stormwater may enter the groundwater.

A22 TOTAL PROJECT AREA
The total project area covers ±3.348 acres.

A23 EXPECTED DISTURBED AREA
The expected project land disturbance is ±2.785 acres.

A24 PROPOSED SITE TOPOGRAPHY
Proposed one–foot contours are shown on the Erosion Control Plan.

A25 DISTURBED AREAS
The construction limits (boundary of disturbed area) are shown on the Erosion Control Plan.

A26 PROPOSED STORMWATER SYSTEMS
The proposed stormwater system sizes and dimensions are labeled on the Erosion Control Plan.

A27 PROPOSED STORMWATER DISCHARGE
Stormwater discharge shall leave the site via storm sewer at the southwest corner of the site.
Qpost Max. (10 year) = 15.30 cfs (inflow)
Qpost Max. (10 year) = 3.61 cfs (outflow)

A28 SITE IMPROVEMENTS
xxxxxxxxxxx.

A29 SOIL STOCKPILES, BORROW/DISPOSAL AREAS
Topsoil shall be stockpiled in a convenient location (as determined by the owner and/or contractor) within the construction site as shown on the Erosion Control Plan. The ______ shall be used as borrow areas in the event additional soil is needed for grading.

A30 CONSTRUCTION SUPPORT ACTIVITIES
xxxxxxxxxxxx.

A31 IN–STREAM ACTIVITIES
xxxxxxxxxxx.

STORMWATER POLLUTION PREVENTION - DURING CONSTRUCTION

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

B2 CONSTRUCTION ENTRANCE
The construction entrance shall be constructed at the ______ section of the project off of ___________. Specifications and details are located on the Erosion Control Details.

B3 TEMPORARY & PERMANENT STABILIZATION
Temporary & Permanent surface stabilization methods are shown on the Erosion Control Plan and detailed on the Erosion Control Details.

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

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

B6 RUNOFF CONTROL MEASURES
Runoff control measures are shown on the Erosion Control Plan. Specifications and details are located on the Erosion Control Details.

B7 STORMWATER OUTLET PROTECTION MEASURES
Stormwater outlet protection measures are shown on the Erosion Control Plan. Specifications and details are located on the Erosion Control Details.

B8 GRADE STABILIZATION STRUCTURES
No grade stabilization structures are required for this project.

B9 LOCATION, DIMENSIONS, SPECIFICATIONS AND DETAILS OF EACH STORMWATER QUALITY MEASURE
Each stormwater quality measure is shown on the Erosion Control Plan and associated details/specifications are shown on the Erosion Control Details.

B10 WATERBODY QUALITY MEASURES
Measures utilitized for work within waterbodies are shown on the Erosion Control Plan and associated details/specifications are shown on the Erosion Control Details.

B11 MONITORING AND MAINTENANCE GUIDELINES
Monitoring and Maintenance Guidelines are located in the middle on the Erosion Control Details

B12 PLANNED CONSTRUCTION GUIDLINES
Planned Construction Sequence guidelines are located in the middle on the Erosion Control Details.

B13 EROSION & SEDIMENT CONTROL MEASURES FOR INDIVIDUAL BUILDING LOTS
Not applicable, as this is to be developed as ____________________.

B14 MATERIAL HANDLING AND SPILL PREVENTION
Spill prevention shall be accomplished by utilizing spillguards for equipment fueling and servicing operations. Spillguards shall be 3'x3'x6" and shall be constructed of a material resistant petroleum products (including diesel fuel and oil). On–site fuel storage tanks shall have emergency storage capacity directly below the tank in case of rupture. Any hazardous material spillage shall be collected and/or cleaned immediately by a trained individual and disposed of in accordance with all federal, state and local regulations.
Indiana Department of Environmental Management
Office of Emergency Response (317) 233–7745, Toll Free (800) 233–7745
_______ Fire Department (XXX) XXX–XXXX
Additional Material Handling and Spill Prevention (this sheet)

B15 MATERIAL HANDLING AND STORAGE
Material Handling and Storage Procedure guidelines are located in the middle on the Erosion Control Details.

STORMWATER POLLUTION PREVENTION - POST CONSTRUCTION

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

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

C3 PROPOSED POST CONSTRUCTION STORMWATER QUALITY MEASURES
Post construction stormwater quality measures shall consist of ____________ for detention and water quality purposes.

C4 LOCATION, DIMENSIONS, SPECIFICATIONS AND DETAILS OF EACH STORMWATER QUALITY MEASURE
The location of the water quality measure is at the normal pool elevation as detailed in construction plans.

C5 MAINTENANCE GUIDELINES OF POST CONSTRUCTION STORMWATER QUALITY MEASURES
The proposed ____________ shall be inspected quarterly for any plugging of the ___________. The ________________ shall be cleared of any obstructions. The pond depth shall be measured annually at the center of the pond.

C6 PARTY RESPONSIBLE FOR STORMWATER POLLUTION PREVENTION
xxxxxxxxxxxx.

MONITORING AND MAINTENANCE GUIDELINES

GRAVEL CONSTRUCTION DRIVE AND PARKING AREA:
A. Inspect weekly and after each storm event and log condition per IDEM.

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

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

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

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

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

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

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

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

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

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

CONSTRUCTION SEQUENCE & SCHEDULE OF EROSION CONTROL IMPLEMENTATION

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

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

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

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

ADDITIONAL MATERIAL HANDLING AND SPILL PREVENTION PLAN

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

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

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

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

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

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

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

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

I. Vehicle and Equipment Fueling

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

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

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

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

II. Solid Waste Management

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

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

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

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

III. Concrete Washout

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

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

IV. Vehicle Maintenance Areas
Purpose– To prevent spills during the normal maintenance of construction machinery.

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

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

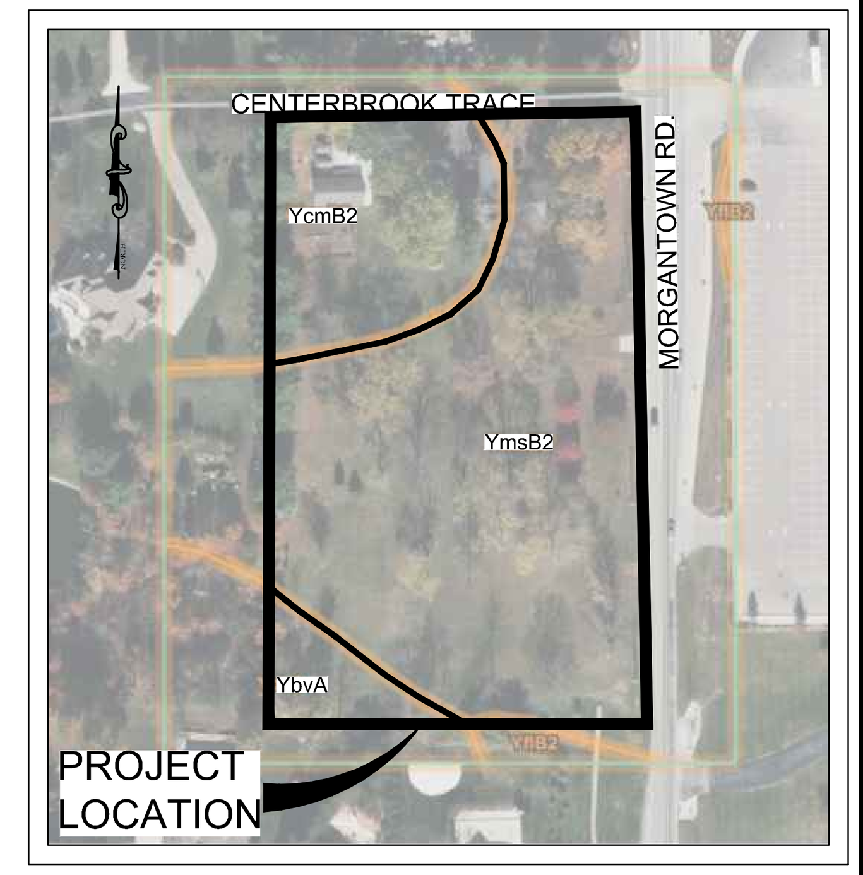
Purpose– To prevent spills during the use and storage of the materials

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

VI. Disposal of sediment laden water

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

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



SOIL MAP AND DESCRIPTION
NOT TO SCALE

Johnson County, Indiana (IN081)

CROSBY URBAN LAND-MIAMI SILT LOAM COMPLEX, eroded (YcmB2)
This slightly sloping soil is in recessionial, ground, and water–lain moraines. Slopes are 2 to 4 percent. Runoff is medium. Soil of this type is typically somewhat poorly drained, but has no frequency of ponding or flooding.

MIAMI SILT LOAM URBAN LAND COMPLEX, eroded (YmsB2)
This slightly sloping soil is found in the till plains of loess over loamy till soils. Slopes are 2 to 6 percent. Runoff is high. Soil of this type is typically moderately well drained with no frequency of flooding or ponding.

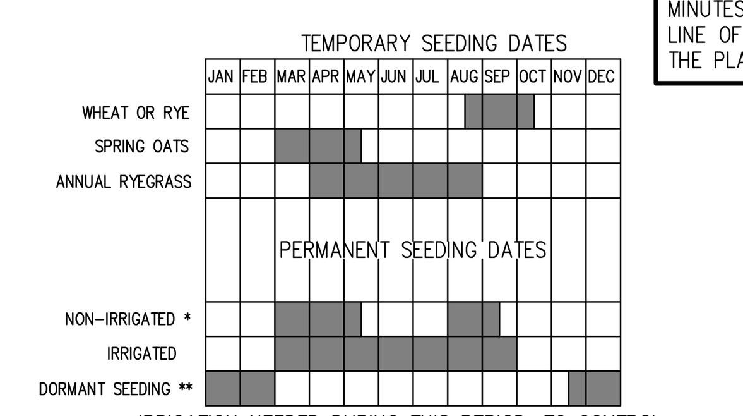
BROOKSTON SILTY CLAY LOAM-URBAN LAND COMPLEX (YbvA)
This nearly level soil is found in depressions of till plains. Slopes are 0 to 2 percent. Runoff is negligible. Soil of this type is typically poorly drained with no frequency of flooding but is known for frequently ponding.

LEGAL DESCRIPTION

APPLE ACRES PLAT
A PART OF THE NORTHEAST QUARTER OF THE NORTHEAST QUARTER OF SECTION 16, TOWNSHIP 13 NORTH, RANGE 3 EAST OF THE SECOND PRINCIPAL MERIDIAN, DESCRIBED AS FOLLOWS:

BEGINNING AT THE SOUTHEAST CORNER OF SAID QUARTER QUARTER SECTION; THENCE SOUTH 88 DEGREES 24 MINUTES WEST ON AND ALONG THE SOUTH LINE OF SAID QUARTER QUARTER SECTION 250.00 FEET; THENCE NORTH PARALLEL TO THE EAST LINE OF SAID QUARTER QUARTER SECTION 508.00 FEET; THENCE NORTH 88 DEGREES 24 MINUTES EAST PARALLEL TO THE SOUTH LINE OF SAID QUARTER QUARTER SECTION 250.00 FEET TO THE EAST LINE OF SAID QUARTER QUARTER SECTION; THENCE SOUTH ON AND ALONG LAST SAID EAST LINE 508.00 FEET TO THE PLACE OF BEGINNING, CONTAINING 2.91 ACERS MORE OR LESS.

TEMPORARY SEEDING DATES



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%.

TEMPORARY SEEDINGS

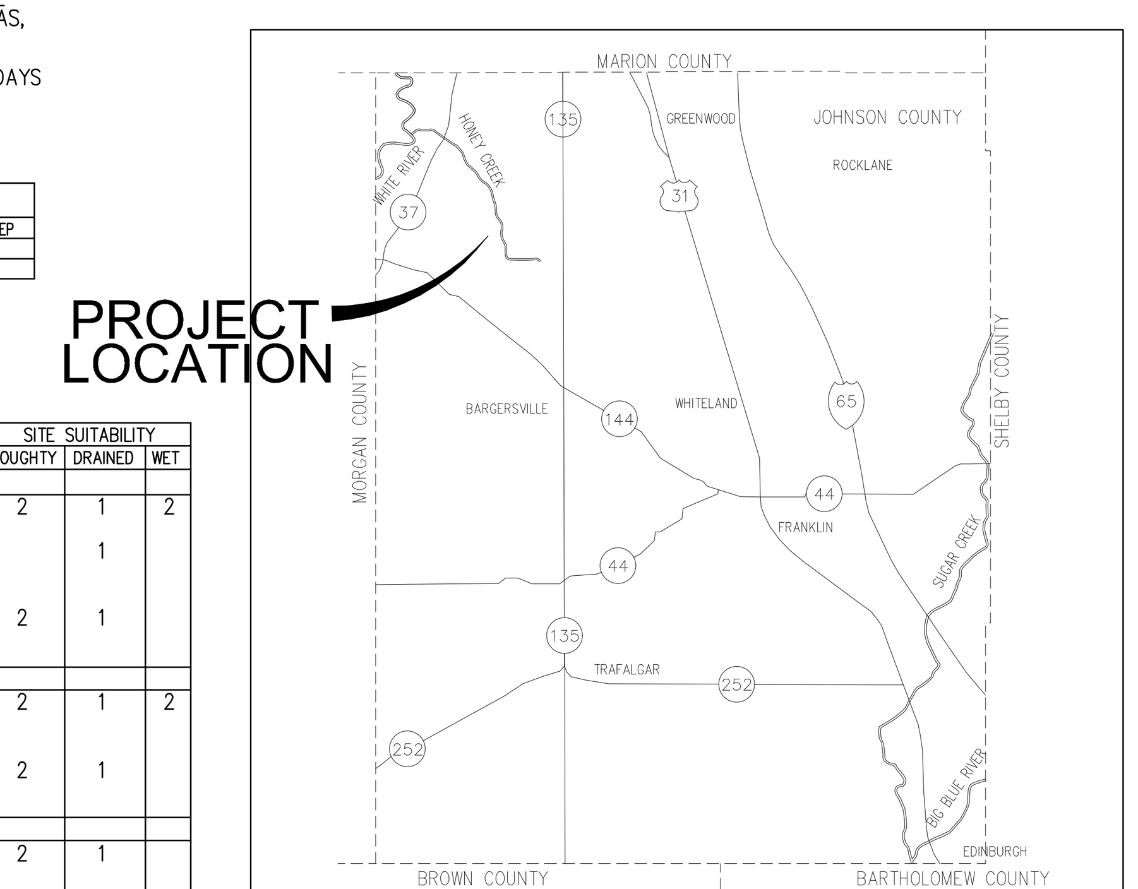
KIND OF SEED	PER 1,000 SQ. FT.	PER ACRE	REMARKS
WHEAT OR RYE	3.5 LBS.	2 BU.	COVER SEED 1" TO 1 1/2" DEEP
SPRING OATS	2.3 LBS.	3 BU.	COVER SEED 1" DEEP
ANNUAL RYEGRASS	1.0 LBS.	40 LBS.	COVER SEED 1/4" DEEP *

* NOT NECESSARY WHERE MULCH IS APPLIED.

PERMANENT SEED MIXTURES

SPECIES	SEEDING RATE LBS/ACRE	SEEDING RATE LBS/1000 SFT.	SUITABLE pH	SITE SUITABILITY DROUGHTY	SITE SUITABILITY DRAINED	SITE SUITABILITY WET
LEVEL & SLOPING, OPEN AREAS						
TALL FESCUE	35	8	5.5 – 8.3	2	1	2
TALL FESCUE RED CLOVER **	25 5	6 12	5.5 – 8.3		1	
KENTUCKY BLUEGRASS CREEPING RED FESCUE	15 15	4 4	5.5 – 7.5	2	1	
STEEP BANKS AND CUTS						
TALL FESCUE KENTUCKY BLUEGRASS	15 25	4 6	5.8 – 7.5	2	1	2
TALL FESCUE EMERALD CROWNVETCH **	35 10	8 25	5.5 – 8.3	2	1	
LAWNS & HIGH MAINTENANCE AREAS						
KENTUCKY BLUEGRASS CREEPING RED FESCUE	40 40	9 9	5.8 – 7.5	2	1	
PERENNIAL RYEGRASS (TURF TYPE)	170	24	5.0 – 7.5		1	
TALL FESCUE	170	4	5.5 – 8.3	2	1	2

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



COUNTY LOCATION MAP
NO SCALE

MULCH ANCHORING METHODS	
ANCHORING METHODS	APPLICATION METHOD
MULCH ANCHORING TOOL OR FARM DISK (DULL, SERRATED, AND BLADES SET STRAIGHT)	CRIMP OR PUNCH THE STRAW OR HAY TWO TO FOUR INCHES INTO THE SOIL. OPERATE MACHINERY ON THE CONTOUR OF THE SLOPE.
CLEATING WITH DOZER TRACKS	OPERATE DOZER UP AND DOWN SLOPE TO PREVENT FORMATION OF RILLS BY DOZER CLEATS.
WOOD HYDROMULCH FIBERS	APPLY ACCORDING TO MANUFACTURER'S RECOMMENDATIONS.
SYNTHETIC TACKIFIERS, BINDERS, OR SOIL STABILIZERS	APPLY ACCORDING TO MANUFACTURER'S RECOMMENDATIONS.
NETTING (SYNTHETIC OR BIO–DEGRADABLE MATERIAL)	INSTALL NETTING IMMEDIATELY AFTER APPLYING MULCH. ANCHOR NETTING WITH STAPLES. EDGES OF NETTING STRIPS SHOULD OVERLAP WITH EACH UP–SLOPE STRIP OVERLAPPING FOUR TO SIX INCHES OVER THE ADJACENT DOWN–SLOPE STRIP. BEST SUITED TO SLOPE APPLICATIONS. IN MOST INSTANCES, INSTALLATION DETAILS ARE SITE SPECIFIC SO MANUFACTURER'S RECOMMENDATIONS SHOULD BE FOLLOWED.

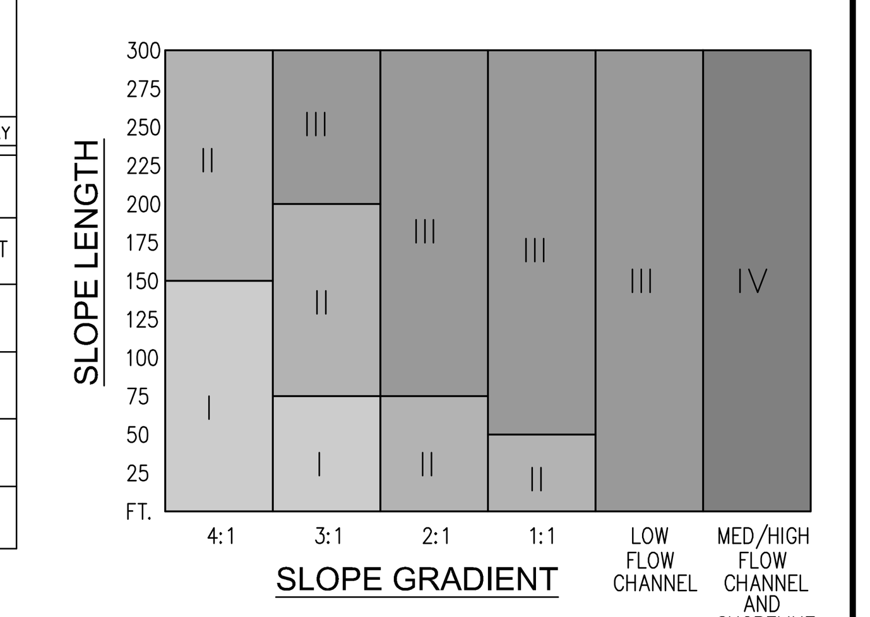
SPECIES	SOIL CONDITION WET	SOIL CONDITION NORM	SOIL CONDITION DRY	SHADE TOLERANCE	CLOSE MOWING TO 2–3 1/2 INCHES	TRAMPING TOLERANCE	FERTILITY NEEDS	WINTER HARDINESS	FLOODING TOLERANCE (DAYS)	MATURE HEIGHT (INCHES)	EMERGENCE TIME (DAYS)	SALT TOLERANCE GEN.	SALT TOLERANCE SOIL	SALT TOLERANCE SPRAY
CREEPING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

RANKING
1 GOOD
2 MEDIUM
– NOT TOLERANT

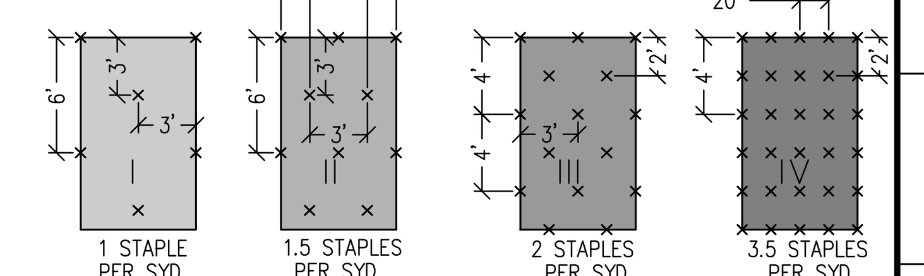
SALT TOLERANCE (TO BOTH SOIL SALTS AND SPRAY)
T – TOLERANCE
MT – MEDIUM TOLERANCE
S – SLIGHT TOLERANCE

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

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



SLOPE GRADIENT



EROSION CONTROL BLANKET
STAPLE PATTERN DETAIL

CROSSROAD ENGINEERS, PC
Transportation & Development Consultants
115 N. 17th AVENUE, BEECH GROVE, IN 46107 (317) 780–1555

SWPPP DETAILS

CENTER GROVE WELLNESS CENTER

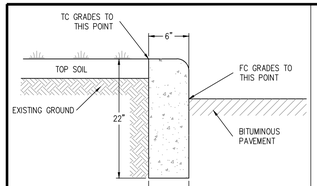
JOB No.	.	DRAWN	DEP	CHECKED	TEN
DATE	AUGUST 9, 2022	DESIGNED	CDM	APPR.	GJI

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

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

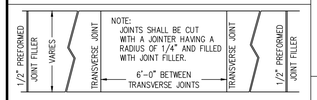
SHEET 801

DIRECTORY PATH : R:\Active\Center Grove Community School Corporation\Wellness Center\Design\CAD\Plans
FILENAME : 801 SWPPP DETAILS.dwg
DATE/USER : 8/8/2022 10:36 AM / Dpeloso



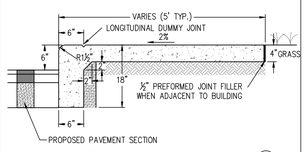
STRAIGHT CONCRETE CURB (C)

NOT TO SCALE



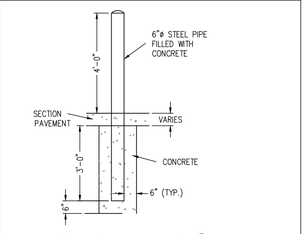
CONCRETE SIDEWALK (D)

NOT TO SCALE



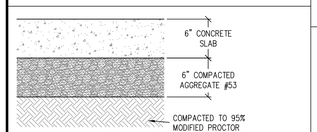
MONOLITHIC CURB AND SIDEWALK (D1)

NOT TO SCALE



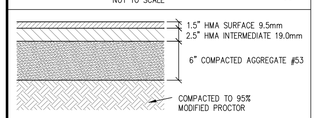
PIPE BOLLARD DETAIL (O)

NOT TO SCALE



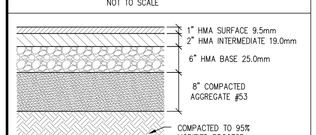
TYPICAL CONCRETE PAVEMENT SECTION (G)

NOT TO SCALE



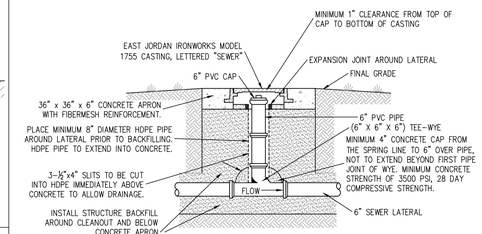
TYPICAL ASPHALT PAVEMENT SECTION (K)

NOT TO SCALE



HEAVY DUTY ASPHALT PAVEMENT SECTION (K1)

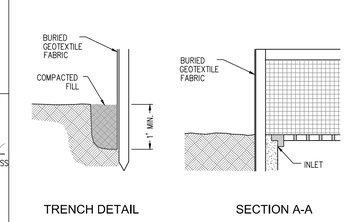
NOT TO SCALE



CLEANOUT DETAIL

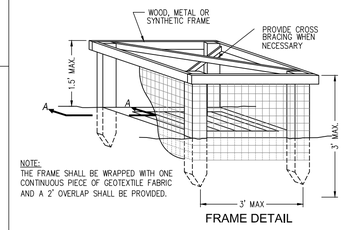
NOT TO SCALE

(HARDSCAPE SURFACES AND ALL OTHER INSTALLATIONS BEYOND THREE FEET OF BUILDING)



TRENCH DETAIL

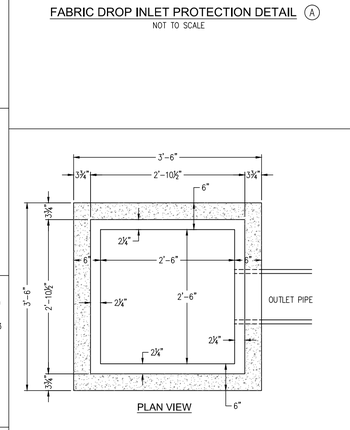
SECTION A-A



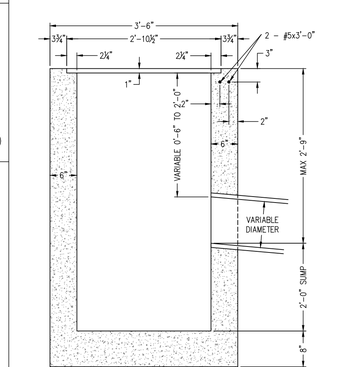
FRAME DETAIL

FABRIC DROP INLET PROTECTION DETAIL (A)

NOT TO SCALE



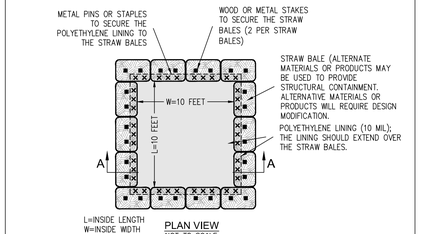
PLAN VIEW



ELEVATION VIEW

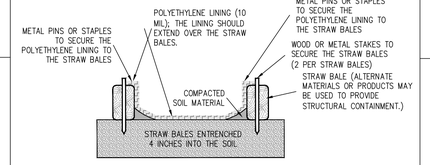
INLET TYPE 'E'

NOT TO SCALE



PLAN VIEW

NOT TO SCALE

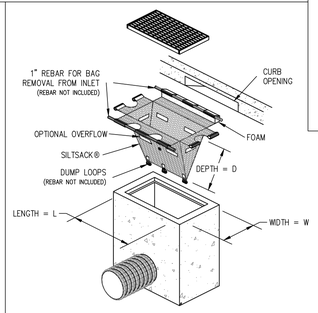


SECTION A-A

NOT TO SCALE

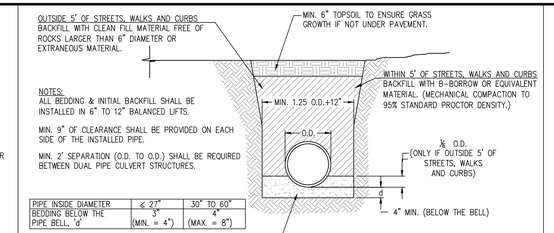
CONCRETE WASHOUT DETAIL (B)

NOT TO SCALE



SILTSACK INLET FILTER DETAIL (C)

NOT TO SCALE

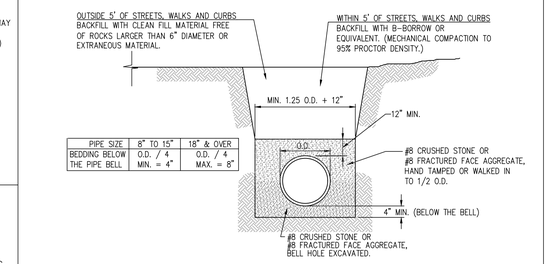


PIPE INSIDE DIAMETER	< 27"	30" TO 60"
BEDDING BELOW THE PIPE BELL, 'd'	3" (MIN. = 4")	4" (MAX. = 8")

RIGID PIPE BEDDING DETAIL

RCP PIPE

NOT TO SCALE

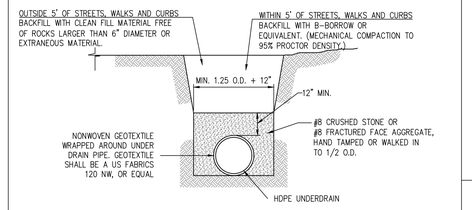


PIPE SIZE	8" TO 15"	18" & OVER
BEDDING BELOW THE PIPE BELL	O.D. / 4 MIN. = 4"	O.D. / 4 MAX. = 8"

FLEXIBLE PIPE BEDDING DETAIL

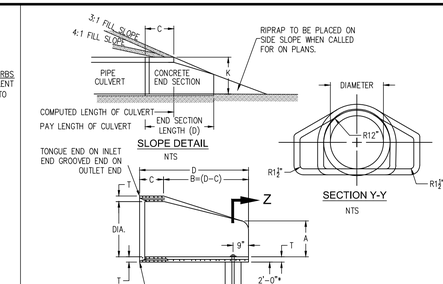
PVC AND HDPE PIPE

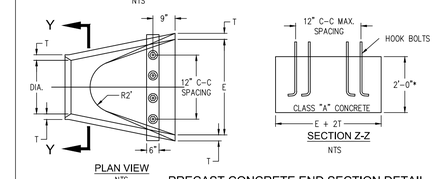
NOT TO SCALE



HDPE UNDERDRAIN DETAIL

NOT TO SCALE



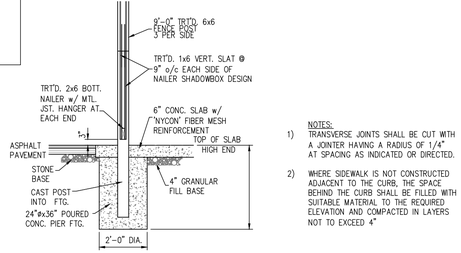


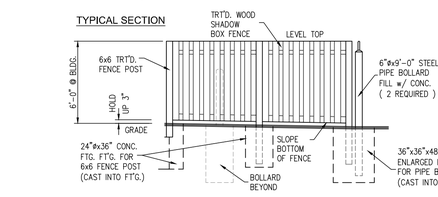
PRECAST CONCRETE END SECTION DETAIL

PRECAST CONCRETE END SECTION TABLE

DIA.	WALL G OR T	WT. SEC.	A	B	C	D	E	DIA.+1	R-1	SKIRT
12	2	1 ½	530	4	24	48 ¾	72 ¾	24	13	10 ⅛	3 ½
15	2 ½	2	740	6	27	46	73	30	16	12 ½	3 ½
18	2 ½	2 ½	990	9	27	46	73	36	19	15 ½	4
21	2 ½	2 ½	1280	9	35	38	73	42	22	16 ½	4
24	2 ½	2 ½	1520	9 ½	43 ½	30	73 ½	48	25	16 ⅞	4 ½
27	2 ½	2 ½	1930	10 ½	48	25 ½	73 ½	54	28	17 ¾	4 ½
30	3	3	2190	12	54	19 ¾	73 ¾	60	31	18 ¾	5
33	3 ⅜	3 ⅜	3150	13 ½	58 ½	39 ¾	97 ⅜	66	34	23 ¼	5 ½
36	3 ½	3 ½	4100	15	63	34 ¾	97 ¾	72	37	24 ⅛	5 ½
42	3 ½	3 ½	5380	21	63	35	98	78	43	27 ⅞	5 ½
48	4 ½	4 ½	6550	24	72	26	98	84	49	28 ⅞	5 ½
54	4 ½	4 ½	8040	27	65	35	100	90	55	32 ⅛	6 ¼
60	5	5	8750	30	60	39	99	96	61	36 ¼	6 ¾
66	5 ½	5 ½	10630	24	78	21	99	102	67	35 ⅞	7 ¼
72	6	6	12520	34	78	21	99	108	73	38 ⅜	7 ¾
78	6 ½	6 ½	14430	24	78	21	99	114	79	41 ⅝	8 ½
84	7	7	16350	24	78	21	99	120	85	44 ⅛	9

NOTES:
1. MANUFACTURE OF END SECTION IS IN ACCORDANCE WITH APPLICABLE PORTIONS OF A.S.T.M. SPECIFICATION C76.

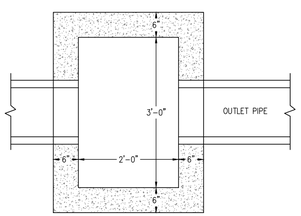




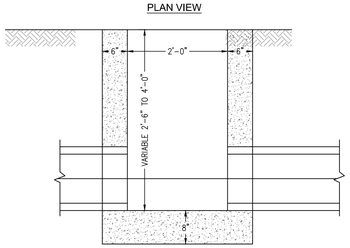
CEDAR SHADOW BOX FENCE TRASH ENCLOSURE (H)

NOT TO SCALE

PLAN VIEW



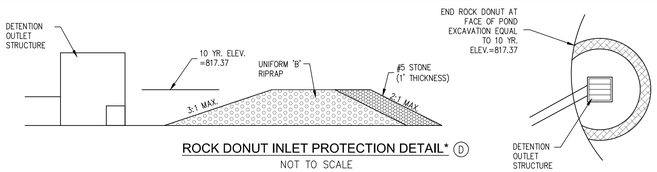
PLAN VIEW



ELEVATION VIEW

INLET TYPE 'B'

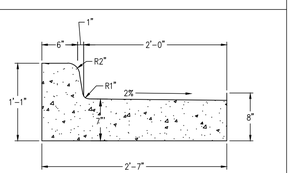
NOT TO SCALE



ROCK DONUT INLET PROTECTION DETAIL* (D)

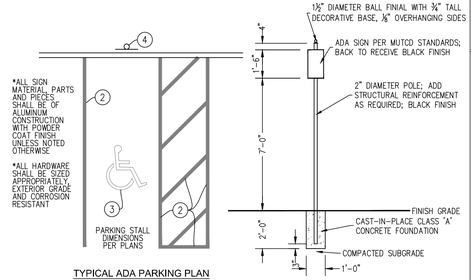
NOT TO SCALE

*ROCK DONUT PROTECTION FOR STR. NO. 11 SHALL CONFORM TO THE DETAIL ABOVE. FOR ALL OTHER USES, THE MINIMUM HEIGHT SHALL BE 2 FT.



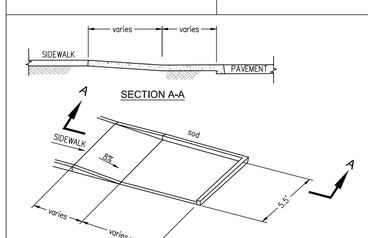
COMBINED CONCRETE CURB AND GUTTER (DRY) (C1)

NOT TO SCALE



HANDICAP PARKING DETAILS

NOT TO SCALE



PARALLEL CURB RAMP (F)

NOT TO SCALE

CROSSROAD ENGINEERS, PC
Transportation & Development Consultants
115 N. 17th AVENUE, BEECH GROVE, IN 46107 (317) 780-1555

SHEET 900

MISCELLANEOUS DETAILS

CENTER GROVE WELLNESS CENTER

JOB No.	DRAWN	DESIGNED	CHECKED	APPR.
.	DEP	CDM	TEN	CJI

DATE AUGUST 9, 2022

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

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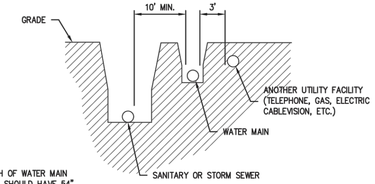
9				

SHEET 900

DIRECTORY PATH : R:\Active\Center Grove Community School Corporation\Wellness Center\Design\CAD\Plans
FILENAME : 900 MISCELLANEOUS DETAILS.dwg
DATE/USER : 8/5/2022 3:52 PM / Dpeloso

WATER MAIN SHALL NOT BE LOCATED IN THE SAME TRENCH AS SANITARY SEWERS.

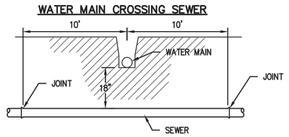
WATER MAIN LAYING PARALLEL TO SEWER



TYPICAL DEPTH OF WATER MAIN 6", & 8" PIPE SHOULD HAVE 54" OF COVER. 10" & LARGER PIPE SHOULD HAVE 54" OF COVER.

NOTE: SEPARATION OF 3 FT WITH ANY UTILITY REQUIRED.

WATER MAIN CROSSING SEWER

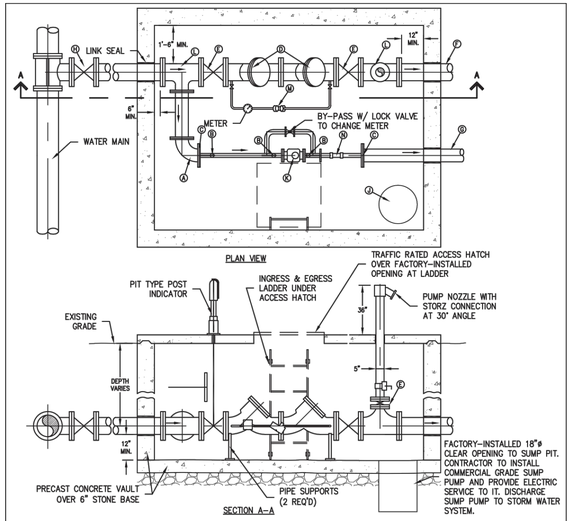


WATER MAIN & SEWER SEPARATION

SCALE: NONE

TOWN OF BARGERSVILLE, INDIANA APPROVED FEBRUARY 27, 2018

DETAIL NO. DW-09
DATE: JAN 2015



KEYED NOTES:

(A) 90° FLANGED BEND w/ PIPE SUPPORT
(B) BALL VALVE
(C) REDUCING FLANGE
(D) DOUBLE DETECTOR CHECK VALVE ASS'Y
(E) FLANGED OS & Y VALVE
(F) FIRE LINE
(G) DOMESTIC SERVICE
(H) MECHANICAL JOINT GATE VALVE & BOX
(I) TAPPING SLEEVE w/ TAPPING VALVE & BOX
(J) SUMP
(K) METER - (BY UTILITY)
(L) FLANGED TEE
(M) DOUBLE CHECK VALVE
(N) LOK-PAK

NOTES:

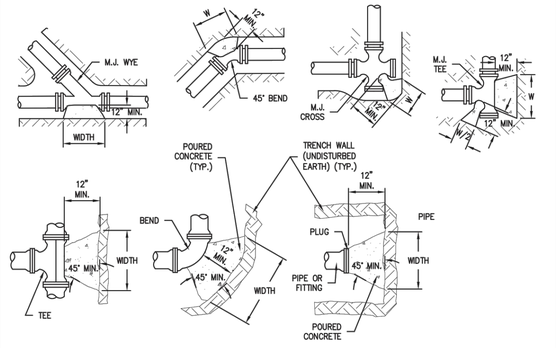
1. CONTRACTOR SHALL CONSTRUCT METER VAULT.
2. CONSTRUCTION MATERIALS: PRECAST CONCRETE.
3. INSIDE DIMENSIONS PER DRAWING NOTES. VAULT TO BE SET LENGTHWISE WITH SERVICE.
4. TOP OF VAULT TO BE PRE-CAST CONCRETE, AT LEAST 4" THICK WITH REINFORCING TO SUPPORT AASHTO H520 TRAFFIC LOAD. TOP OF VAULT SHALL CORRESPOND WITH FINISHED GRADE LEVEL OF SURROUNDING AREA. LEVEL WITH PAVEMENT IF CONSTRUCTED IN PAVED AREA.
5. BOTTOM OF VAULT TO BE PRE-CAST 6" CONCRETE, WITH MINIMUM CLEARANCE OF 12" BELOW BOTTOM OF FIRE/SERVICE LINE.
6. CUSTOMER SHALL FURNISH 3" BALL VALVES ON OUTLET SIDE OF THE 2" METER SETTING.
7. CUSTOMER SHALL FURNISH DOUBLE DETECTOR CHECK VALVE. METER IS FURNISHED BY UTILITY.
8. CUSTOMER SHALL FURNISH VAULT FRAME AND LID TO BE INSTALLED IN TOP OF VAULT BY CUSTOMER (BILCO J-2AL OR 30"x30" ALUMINUM POW)
9. UTILITY WILL INSTALL DOMESTIC SERVICE METER INTO THE VAULT. COMBINATION SERVICES CAN BE USED AT THE DISCRETION OF THE UTILITY.
10. CUSTOMER SHALL INSTALL A LADDER IN PIT FOR INGRESS AND EGRESS.
11. A 2" TEST PLUG SHALL BE INSTALLED AT LEAST 2 PIPE DIAMETERS DOWNSTREAM OF 2" OR LARGER METERS.

COMBINED FIRE SERVICE & METER VAULT

SCALE: NONE

TOWN OF BARGERSVILLE, INDIANA APPROVED FEBRUARY 27, 2018

DETAIL NO. DW-10
DATE: JAN 2015
REV DATE: OCT 2016



AREA IN SQUARE FEET REQUIRED FOR CONCRETE THRUST BLOCKING					
SIZE	TEE & PLUG	90° BEND	45° BEND	22½° BEND	11¼° BEND
4"	2.0	2.5	1.5	1.0	1.0
6"	4.0	5.5	3.0	1.5	1.0
8"	6.5	9.0	5.0	2.5	1.5
10"	10.0	14.0	7.5	4.0	2.0
12"	14.0	20.0	11.0	5.5	3.0
14"	19.0	27.0	14.5	7.5	4.0
16"	25.0	35.0	19.0	10.0	5.0
18"	31.5	44.5	24.0	12.5	6.5
20"	38.0	54.5	29.5	15.0	7.5
24"	55.5	78.5	42.5	22.0	11.0
30"	55.5	122.0	66.0	34.0	17.0
36"	124.0	175.5	95.0	48.5	24.5
42"	168.0	237.5	128.5	65.5	33.0

NOTES:
1. CONCRETE REACTION BLOCKING SHALL NOT COVER PIPE JOINTS, BOLTS, OR GLANDS.
2. WRAP ALL WATER MAIN SURFACES WITH POLYETHYLENE PRIOR TO PLACEMENT OF CONCRETE.

WATER MAIN REACTION BLOCKING

SCALE: NONE

TOWN OF BARGERSVILLE, INDIANA APPROVED FEBRUARY 27, 2018

DETAIL NO. DW-06
DATE: JAN 2015

BEND RESTRAINT
ALL BENDS REQUIRE RESTRAINERS

ALL BENDS ARE DUCTILE IRON AND REQUIRE (1) GRIP RING ON EACH SIDE OF THE FITTING.

22½° BENDS REQUIRE ONLY GRIP RINGS IN ALL SIZES. 45° BENDS REQUIRE GRIP RINGS OR A BELL RESTRAINT HARNESS ON EACH SIDE OF THE FITTING ONE JOINT AWAY.

THRUST BLOCK REQUIRED ON ALL BENDS.

MAIN LINE REDUCER

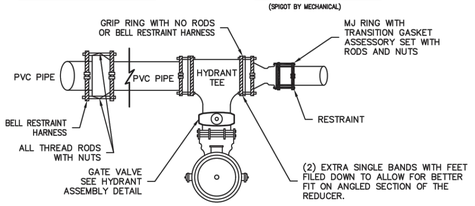
REDUCERS CAN ONLY BE USED AT A INTERSECTION

REDUCERS ON 6" AND 8" USE 1 GRIP RING AND 1 JOINT RESTRAINER ON EACH SIDE OF THE REDUCER 20 FEET MINIMUM.

REDUCERS ON 10" AND LARGER USE 2 JOINT RESTRAINERS ON THE LARGER SIDE AND 1 GRIP RING. USE 1 GRIP RING AND 1 JOINT RESTRAINER ON THE SMALL SIDE 20 FEET MINIMUM.

JOINT RESTRAINT DETAIL

POLY REDUCER DETAIL
(SPIGOT BY MECHANICAL)



INSTALLATION OF RESTRAINTS

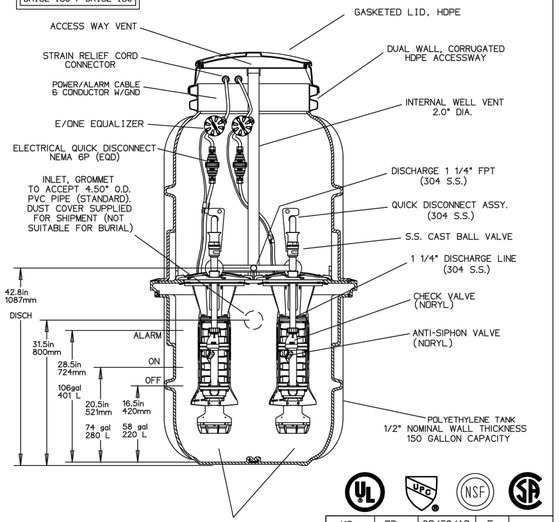
SCALE: NONE

TOWN OF BARGERSVILLE, INDIANA APPROVED FEBRUARY 27, 2018

DETAIL NO. DW-16
DATE: JAN 2015
REV DATE: OCT 2016

OPTIONS: ☐ DH152 (HARD WIRED LEVEL CONTROLS)
☐ DR152 (WIRELESS LEVEL CONTROLS)

FIELD JOINT REQUIRED FOR MODELS DH152-129 / DR152-129 & DH152-160 / DR152-160



CONCRETE BALLAST MAY BE REQUIRED SEE INSTALLATION INSTRUCTIONS FOR DETAILS

NOTE: DIMENSIONS ARE FOR REF ONLY

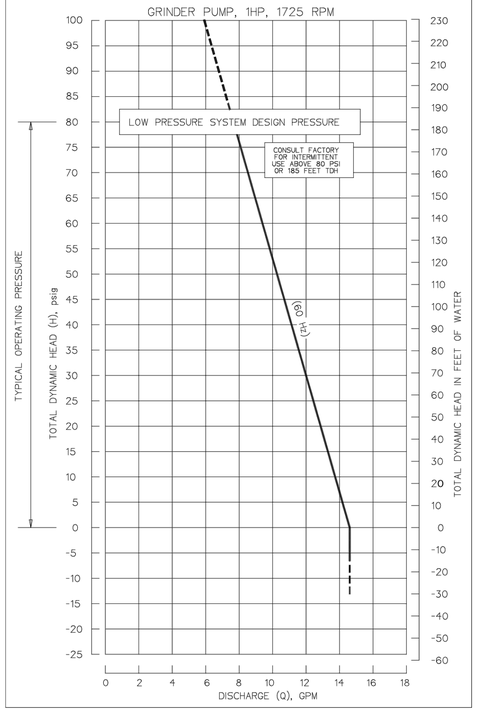
KC	PD	09/30/19	F	
DR BY	CHK'D	DATE	ISSUE	SCALE

e|one SEWER SYSTEMS

MODEL DH152 / DR152 DETAIL SHEET

NA0052P02

E|ONE SPD PUMP PERFORMANCE CURVE



DIRECTORY PATH : R:\Active\Center Grove Community School Corporation\Wellness Center\Design\CAD\Plans
FILENAME : 901 MISCELLANEOUS DETAILS.dwg
DATE/USER : 8/3/2022 8:32 AM / Dpotsso

CROSSROAD ENGINEERS, PC
Transportation & Development Consultants
115 N. 17th AVENUE, BEECH GROVE, IN 46107 (317) 780-1555

SHEET 901

MISCELLANEOUS DETAILS

CENTER GROVE WELLNESS CENTER

JOB No.	.	DRAWN	DEP	CHECKED	TEN	APPR.	CJI
DATE	AUGUST 9, 2022	DESIGNED	CDM				

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

NO.	DATE	BY	APPR.
1			
2			
3			
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7			
8			
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REVISIONS

SHEET 901

EARTHWORK

1. SCOPE OF WORK
   - A. EXTENT: THE WORK REQUIRED UNDER THIS SECTION CONSISTS OF ALL EXCAVATING, FILLING, ROUGH GRADING AND RELATED ITEMS NECESSARY TO COMPLETE THE WORK INDICATED ON THE DRAWINGS AND DESCRIBED IN THE SPECIFICATIONS. THE CONTRACTOR SHALL NOTIFY IN WRITING THE OWNER AND THE ENGINEER OF ANY CHANGES, ERRORS OR OMISSIONS FOUND ON THE PLANS OR IN THE FIELD, BEFORE WORK IS STARTED OR RESUMED.
     1. IN GENERAL, THE ITEMS OF WORK TO BE PERFORMED UNDER THIS SECTION SHALL INCLUDE CLEARING AND GRUBBING, REMOVAL OF TREES AND STUMPS, STRIPPING AND STORAGE OF TOPSOIL, FILL COMPACTION AND ROUGH GRADING OF ENTIRE SITE. ALL TREES SHALL BE REMOVED UNLESS OTHERWISE NOTED IN PLANS OR DIRECTED BY OWNER.
     2. EXCAVATED MATERIAL THAT IS SUITABLE MAY BE USED FOR FILLS. ALL UNSUITABLE MATERIAL AND ALL SURPLUS EXCAVATED MATERIAL NOT REQUIRED SHALL BE REMOVED FROM THE SITE. THE LOCATION OF DUMP AND LENGTH OF HAUL SHALL BE THE CONTRACTOR'S RESPONSIBILITY.
     3. PROVIDE AND PLACE ANY ADDITIONAL FILL MATERIAL FROM OFF THE SITE AS MAY BE NECESSARY TO PRODUCE THE GRADES REQUIRED. FILL OBTAINED FROM OFF SITE SHALL BE OF KIND AND QUALITY AS SPECIFIED FOR FILLS HEREIN AND THE SOURCE APPROVED BY THE OWNER.
     4. THE CONTRACTOR SHALL ACCEPT THE SITE AS HE FINDS IT AND SHALL REMOVE ALL TRASH, RUBBISH AND DEBRIS FROM THE SITE PRIOR TO STARTING EXCAVATION
2. BENCHMARK
   - A. MAINTAIN CAREFULLY ALL BENCH MARKS, MONUMENTS AND OTHER REFERENCE POINTS; IF DISTURBED OR DESTROYED, CONTRACTOR SHALL CONTACT ENGINEER.
3. REMOVAL OF TREES
   - A. THE INTEGRITY OF THE TOPOGRAPHIC FEATURES (INCLUDING TREES) SHALL BE PERSEVERED AS MUCH AS POSSIBLE THE CONTRACTOR SHALL COORDINATE WITH OWNER AND/OR ENGINEER PRIOR TO CLEARING THE SITE FOR CONSTRUCTION.
   - B. ALL BRUSH, STUMPS, WOOD AND OTHER REFUSE FROM THE TREES REMOVED SHALL BE HAULED TO DISPOSAL AREAS OFF OF THE SITE. DISPOSAL BY BURNING SHALL NOT BE PERMITTED UNLESS PROPER PERMITS ARE OBTAINED (WHERE APPLICABLE).
4. HANDLING OF TOPSOIL
   - A. REMOVE ALL ORGANIC MATERIAL FROM THE AREAS TO BE OCCUPIED BY BUILDINGS, ROADS, WALKS AND PARKING AREAS. PILE AND STORE TOPSOIL AT A LOCATION WHERE IT WILL NOT INTERFERE WITH CONSTRUCTION OPERATIONS. TOPSOIL SHALL BE REASONABLE FREE FROM SUBSOIL, DEBRIS, WEEDS, GRASS, STONES, ETC.
   - B. AFTER COMPLETION OF SITE GRADING AND SUBSURFACE UTILITY INSTALLATION, TOPSOIL SHALL BE REPLACED IN AREAS DESIGNATED ON THE EROSION CONTROL PLAN FOR SEEDING AND/OR SODDING. ANY REMAINING TOPSOIL SHALL BE USED FOR FINISHED GRADING AROUND STRUCTURES AND LANDSCAPING AREAS.
5. DISPOSITION OF UTILITIES
   - A. RULES AND REGULATIONS GOVERNING THE RESPECTIVE UTILITIES SHALL BE OBSERVED IN EXECUTING ALL WORK UNDER THIS SECTION.
   - B. IF ACTIVE UTILITIES ARE ENCOUNTERED BUT NOT SHOWN ON THE DRAWINGS, THE ENGINEER SHALL BE ADVISED BEFORE WORK IS CONTINUED.
   - C. INACTIVE AND ABANDONED UTILITIES ENCOUNTERED IN EXCAVATING AND GRADING OPERATIONS SHALL BE REPORTED TO THE ENGINEER. THEY SHALL BE REMOVED, PLUGGED OR CAPPED AS DIRECTED BY THE UTILITY COMPANY OR THE ENGINEER.
   - D. IT SHALL BE THE RESPONSIBILITY OF EACH CONTRACTOR TO VERITY ALL EXISTING UTILITIES AND CONDITIONS PERTAINING TO HIS PHASE OF THE WORK. IT SHALL ALSO BE THE CONTRACTOR'S RESPONSIBILITY TO CONTACT THE OWNERS OF THE VARIOUS UTILITIES BEFORE WORK IS STARTED.
6. SITE GRADING
   - A. GRADES: CONTRACTOR SHALL PERFORM ALL CUTTING, FILLING, COMPACTING OF FILLS AND ROUGH GRADING REQUIRED TO BRING ENTIRE PROJECT AREA TO GRADE AS SHOWN ON THE DRAWINGS.
   - B. ROUGH GRADING: THE TOLERANCE FOR PAVED AREAS SHALL NOT EXCEED 0.10 FEET PLUS OR MINUS ABOVE THE ESTABLISHED SUBGRADE. ALL OTHER AREAS SHALL NOT EXCEED 0.10 FEET PLUS OR MINUS THE ESTABLISHED GRADE. ALL BANKS AND OTHER BREAKS IN GRADE SHALL BE ROUNDED AT THE TOP AND BOTTOM.
   - C. COMPACTION REQUIREMENTS:
     1. ALL BUILDING PAD AREAS SHALL BE COMPACTED TO STANDARDS SPECIFIED BY LOCAL AND/OR STATE BUILDING CODES.
     2. COMPACTION REQUIREMENTS OF PAVED AREAS SHALL BE 95% OF MAXIMUM DRY DENSITY.
7. EARTH WORK BALANCE
   - A. THE CONTRACTOR SHALL CONFIRM ALL EARTHWORK QUANTITIES PRIOR TO START OF CONSTRUCTION. IF AN EXCESS OR SHORTAGE OF EARTH IS ENCOUNTERED, THE CONTRACTOR SHALL CONFIRM WITH THE OWNER AND ENGINEER THE REQUIREMENTS FOR STOCKPILING, REMOVAL OR IMPORTING OF EARTH.

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

STREETS

1. SCOPE OF WORK
   - A. THE WORK REQUIRED UNDER THIS SECTION INCLUDES ALL CONCRETE AND BITUMINOUS PAVING AND RELATED ITEMS NECESSARY TO COMPLETE THE WORK INDICATED ON THE DRAWINGS AND DESCRIBED IN THE SPECIFICATIONS, INCLUDING BUT NOT LIMITED TO:
     1. ALL STREETS, PARKING AREAS WITHIN THE CONTRACT LIMITS.
     2. CURBS AND CONCRETE RAMPS.
     3. SIDEWALKS AND CONCRETE SLABS.
     4. IN THE CASE OF ANY CONFLICTS WITH THESE SPECIFICATIONS AND LOCAL, STATE, FEDERAL SPECIFICATIONS THE MORE STRINGENT SHALL APPLY.
   - B. IN THE CASE OF ANY CONFLICTS WITH THESE SPECIFICATIONS AND LOCAL, STATE, FEDERAL SPECIFICATIONS THE MORE STRINGENT SHALL APPLY.
2. PAVEMENT CONSTRUCTION
   - A. ALL STREET CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE PLANS AND SPECIFICATIONS AND CONFORM TO THE MINIMUM STANDARDS OF THE JOHNSON COUNTY PLANNING AND HIGHWAY DEPARTMENTS, AND IF THERE ARE AREAS UNDEFINED USE THE MOST CURRENT I.N.D.O.T. STANDARD SPECIFICATION.
   - B. FLEXIBLE PAVEMENT
     1. MATERIALS
        - A. GENERAL: USE LOCALLY AVAILABLE MATERIALS AND GRADATIONS WHICH EXHIBIT A SATISFACTORY RECORD OF PREVIOUS INSTALLATIONS.
        - B. COMPACTED AGGREGATE BASE: SOUND, ANGULAR CRUSHED LIMESTONE, CRUSHED OR UNCRUSHED GRAVEL, OR CRUSHED OR PROCESSED AIR-COOLED BLAST FURNACE SLAG. COURSE AGGREGATE SHALL BE CLASS A, TYPE "O" AND CONFORM TO THE MOST CURRENT I.N.D.O.T. STANDARD SPECIFICATION.
        - C. BASE COURT AGGREGATE: SOUND, ANGULAR CRUSHED STONE, CRUSHED OR UNCRUSHED GRAVEL, OR CRUSHED SLAG, SAND, STONE, OR SLAG SCREENINGS. COARSE AGGREGATES SHALL BE CLASS A OR B AND CONFORM TO I.N.D.O.T. STANDARDS SPECIFICATIONS SECTION 903.
        - D. COARSE AGGREGATE FOR SURFACE AND BINDER MIXTURES: CRUSHED STONE, CRUSHED GRAVEL, CRUSHED SLAB, AND SHARP EDGED NATURAL SAND. SURFACE COARSE AGGREGATES SHALL BE CLASS A AND CONFORM TO I.N.D.O.T. STANDARD SPECIFICATIONS SECTION 903.
3. ASPHALT-AGGREGATE MIXTURE
   ALL BITUMINOUS MIXTURES ARE TO CONFORM TO CURRENT I.N.D.O.T. SPECIFICATIONS
   - A. SURFACE COURSE: HMA SURFACE 9.5mm
   - B. BINDER COURSE: HMA INTERMEDIATE 19.0mm
   - C. BASE COURSE: TYPE: HMA BASE 25.0mm
     **PROVIDED A JOB MIX FORMULA FOR EACH TYPE OF ASPHALT PRIOR TO THE BEGINNING OF THE CONSTRUCTION PROJECT.
4. SURFACE PREPARATION
   - A. REMOVE LOOSE MATERIAL FROM COMPACTED SUBBASE SURFACE IMMEDIATELY BEFORE APPLYING PRIME COAT.
     - I) PROOF ROLL SUBGRADE SURFACE WITH LOADED TRI-AXLE TRUCK (48 HOUR NOTICE IS REQUIRED TO BE GIVEN TO THE JOHNSON COUNTY HIGHWAY DEPT.) TO CHECK FOR UNSTABLE AREAS AND AREAS REQUIRING ADDITIONAL COMPACTION.
     - II) NOTIFY CONTRACTOR OF UNSATISFACTORY CONDITIONS. DO NOT BEGIN PAVING WORK UNTIL DEFICIENT SUBBASE AREAS HAVE BEEN CORRECTED AND ARE READY TO RECEIVE PAVING.
   - B. AGGREGATE BASE: AFTER PLACEMENT, PROOF ROLL COMPACTED AGGREGATE BASE SURFACE TO CHECK FOR UNSTABLE AREAS AND AREAS REQUIRING ADDITIONAL COMPACTION.
     - I) NOTIFY CONTRACTOR OF UNSATISFACTORY CONDITIONS. DO NOT BEGIN PAVING WORK UNTIL DEFICIENT AGGREGATE BASE AREAS HAVE BEEN CORRECTED AND ARE READY TO RECEIVE PAVING.
     - II) REMOVE LOOSE MATERIAL FROM COMPACTED AGGREGATE BASE SURFACE IMMEDIATELY BEFORE APPLYING PRIME COAT.
5. PLACING THE MIX
   - A. GENERAL: PLACE BITUMINOUS AGGREGATE MIXTURE ON PREPARED SURFACE, SPREAD AND STRIKE-OFF. SPREAD MIXTURE AT MINIMUM TEMPERATURE OF 225 DEGREES F.(107 DEGREES C). PLACE INACCESSIBLE AND SMALL AREAS BY HAND. PLACE EACH COURSE TO REQUIRED GRADE, CROSS-SECTION, AND COMPACTED THICKNESS.
   - B. BASE COURSE, COMPACTED AGGREGATE: SPREAD AND COMPACT IN TWO LIFTS AS FOLLOWS:
     - I) FIRST LIFT: NO. 5'S SHALL BE A MINIMUM OF 4" OR ½ THE TOTAL DEPTH OF AGGREGATE. EXTEND THE FIRS LIFT 4" OR A DISTANCE EQUAL TO THE DEPTH OF THE LIFT BEYOND THE SECOND LIFT.
     - II) SECOND LIFT: SIZE NO. 53
   - C. PRIME COAT: SUBBASE SURFACE SHALL BE PRIMED IN ACCORDANCE WITH THE APPLICABLE REQUIREMENTS OF THE MOST CURRENT I.N.D.O.T. STANDARD SPECIFICATION.
   - D. HOT ASPHALT CONCRETE BINDER COURSE: SPREAD AND ROLL TO MINIMUM FINISH DEPTHS INDICATED ON DETAILS.
   - E. TACK COAT: BINDER COURSE SHALL BE TACKED PRIOR TO THE INSTALLATION OF THE SURFACE COURSE IN ACCORDANCE WITH THE APPLICABLE REQUIREMENTS OF THE MOST CURRENT I.N.D.O.T. STANDARD SPECIFICATION.
   - F. SURFACE COURSE: SPREAD AND ROLL TO MINIMUM FINISH DEPTH INDICATED ON DETAILS. FINISH ELEVATION SHALL BE TRUE TO LINE AND GRADE WITHIN ½" OF TRUE ELEVATIONS.
   - G. PAVER PLACING: PLACE IN STRIPS NOT LESS THAN 10' WIDE, UNLESS OTHERWISE ACCEPTABLE TO ARCHITECT/ENGINEER. AFTER FIRST STRIP HAS BEEN PLACED AND ROLLED, PLACE SUCCEEDING STRIPS AND EXTEND ROLLING TO OVERLAP PREVIOUS STRIPS. COMPLETE BINDER COURSE FOR A SECTION BEFORE PLACING SURFACE COURSE.
   - H. JOINTS: MAKE JOINTS BETWEEN OLD AND NEW PAVEMENTS, OR BETWEEN PAVER PASSES, OR BETWEEN SUCCESSIVE DAYS WORK, TO ENSURE CONTINUOUS BOND BETWEEN ADJOINING WORK. CONSTRUCT JOINTS TO HAVE SAME TEXTURE, DENSITY AND SMOOTHNESS AS OTHER SECTIONS. CLEAN CONTACT SURFACES AND APPLY TACT COAT.
6. ROLLING
   - A. GENERAL: BEGIN ROLLING WHEN MIXTURE WILL BEAR ROLLER WEIGHT WITHOUT EXCESSIVE DISPLACEMENT.
     - I) COMPACT MIXTURE WITH HOT HAND TAMPERS OR VIBRATING PLATE COMPACTORS IN AREAS INACCESSIBLE TO ROLLERS.
   - B. BREAKDOWN ROLLING: ACCOMPLISH BREAKDOWN OR INITIAL ROLLING IMMEDIATELY FOLLOWING ROLLING OF JOINTS AND OUTSIDE EDGE. CHECK SURFACE AFTER BREAKDOWN ROLLING, AND REPAIR DISPLACED AREAS BY LOOSENING AND FILLING, IF REQUIRED, WITH HOT MATERIAL.
   - C. SECOND ROLLING: FOLLOW BREAKDOWN ROLLING AS SOON AS POSSIBLE, WHICH MIXTURE IS HOT. CONTINUE SECOND ROLLING UNTIL MIXTURE HAS BEEN THOROUGHLY COMPACTED.
   - D. FINISH ROLLING: PERFORM FINISH ROLLING WHILE MIXTURE IS STILL WARM ENOUGH FOR REMOVAL OF ROLLER MARKS. CONTINUE ROLLING UNTIL ROLLER MARKS ARE ELIMINATED AND COURSE HAS ATTAINED MAXIMUM DENSITY.
   - E. PATCHING: REMOVE AND REPLACE PAVING AREAS MIXED WITH FOREIGN MATERIALS AND DEFECTIVE AREAS. CUT OUT SUCH AREAS AND FILL WITH FRESH, HOT BITUMINOUS AGGREGATE MIX. COMPACT BY ROLLING TO MAXIMUM SURFACE DENSITY AND SMOOTHNESS.
   - F. PROTECTION: AFTER FINAL ROLLING, DO NOT PERMIT VEHICULAR TRAFFIC ON PAVEMENT UNTIL IT HAS COOLED AND HARDENED.
   - G. ERECT BARRICADES TO PROTECT PAVING FROM TRAFFIC UNTIL MIXTURE HAS COOLED ENOUGH NOT TO BECOME MARKED.
7. TRAFFIC AND LANE MARKINGS
   - A. CLEANING: SWEEP AND CLEAN SURFACE TO ELIMINATE LOOSE MATERIAL AND DUST.
   - B. STRIPPING: USE CHLORINATED RUBBER BASE TRAFFIC LANE-MARKING PAINT, FACTORY MIXED, QUICK-DRYING, AND NON-BLEEDING.
     COLOR: YELLOW
     - I) DO NOT APPLY TRAFFIC AND LANE MARKING PAINT UNTIL LAYOUT AND PLACEMENT HAS BEEN VERIFIED WITH ARCHITECT/ENGINEER.
     - II) APPLY PAINT WITH MECHANICAL EQUIPMENT TO PRODUCE UNIFORM STRAIGHT EDGES. APPLY IN TWO COATS AT MANUFACTURER'S RECOMMENDED RATES.
8. FIELD QUALITY CONTROL
   - A. TESTING AND INSPECTION SERVICE:
     - I) OWNER SHALL EMPLOY A TESTING LABORATORY TO PERFORM PAVEMENT TESTING AND INSPECTION SERVICE FOR QUALITY CONTROL DURING PAVING OPERATIONS.
     - II) TESTING SERVICE SHALL HAVE REPRESENTATIVE PRESENT TO OBSERVE AND PERFORM TESTS AT ALL TIMES PAVING WORK IS IN PROGRESS.
   - B. GENERAL: TESTING SERVICE REPRESENTATIVE SHALL TAKE A MINIMUM OF TWO SAMPLES PER LIFT OF BITUMINOUS AGGREGATE MIX EACH DAY BEFORE PAVING OPERATION. LABORATORY TEST SHALL BE PERFORMED ON THESE SAMPLES TO DETERMINE AGGREGATE GRADATION AND ASPHALT CONTENT.
     - I) TEST IN-PLACE COMPACTED BITUMINOUS AGGREGATE MIX COURSES FOR COMPLIANCE WITH REQUIREMENTS FOR THICKNESS, DENSITY AND AIR VOIDS AND SURFACE SMOOTHNESS. REPAIR OR REMOVE AND REPLACE UNACCEPTABLE PAVING AS DIRECTED BY ENGINEER.
     - II) A TEST SECTION AT A MINIMUM SIZE OF 100'X12' SHALL BE PLACED AT A LOCATION AS DIRECTED BY THE COUNTY PRIOR TO FULL PRODUCTION FOR EACH TYPE OF MIX. THE TEST SECTION SHALL BE COMPACTED TO DETERMINE A TARGET DENSITY FOR THE REMAINDER OF THE PAVEMENT.
   - C. THICKNESS: IN-PLACE COMPACTED THICKNESS WILL NOT BE ACCEPTABLE IF EXCEEDING FOLLOWING ALLOWABLE VARIATION FROM REQUIRED THICKNESS:
     AGGREGATE BASE COURSE: ½", PLUS OR MINUS
     BASE COURSE: ½", PLUS OR MINUS
     BINDER COURSE: ¼", PLUS OR MINUS
     SURFACE COURSE: ¼", PLUS OR MINUS
   - D. PAVEMENT THICKNESS
     DENSITY
     AIR VOIDS
     - I) TESTING SERVICE SHALL SUBMIT CERTIFIED RESULTS TO THE OWNER AND ARCHITECT/ENGINEER WITHIN 72 HOURS AFTER TESTS ARE MADE, WITH THEIR COMMENTS AND RECOMMENDATIONS FOR ACTION.
     - II) PAVEMENT WHICH FAILS TO COMPLY WITH APPROVED JOB MIX FORMULA SHALL BE REPLACED AS DIRECTED BY THE ARCHITECT/ENGINEER.
   - E. SURFACE SMOOTHNESS: TEST FINISHED SURFACE FOR SMOOTHNESS, USING 10' STRAIGHTEDGE APPLIED PARALLEL WITH, AND AT RIGHT ANGLES TO CENTERLINE OF PAVED AREA. SURFACE WILL NOT BE ACCEPTABLE IF EXCEEDING THE FOLLOWING TOLERANCES FOR SMOOTHNESS.
     AGGREGATE BASE COURSE SURFACE:1/4"
     BASE COURSE SURFACE: 1/4"
     BINDER COURSE SURFACE: 1/8"
     WEARING COURSE SURFACE: 1/8"
     - I) CHECK SURFACED AREAS AT INTERVALS AS DIRECTED BY TESTING SERVICE.
   - F. DENSITY TESTS: DENSITY TESTS SHALL BE MADE AT EACH LIFT. TEST SHALL BE AS FOLLOWS:
     - I) TESTS WILL BE REQUIRED AT VARIOUS TIMES AND LOCATIONS FOR SUBGRADE AND BASE COURSES FOR ASPHALT PAVING AREAS.
   - G. TESTING SERVICE SHALL SUBMIT CERTIFIED RESULTS TO THE OWNER AND ENGINEER WITHIN 72 HOURS AFTER TESTS ARE MADE WITH THEIR COMMENTS AND RECOMMENDATIONS FOR ACTION.
     - I) SUBGRADE SHALL BE PREPARED IN ACCORDANCE WITH THE MOST CURRENT I.N.D.O.T. STANDARD SPECIFICATION. NO TRAFFIC SHALL BE PERMITTED ON THE PREPARED SUBGRADE PRIOR TO PAVING.
     - II) SEE SITE GRADING, UNDER THE 'EARTHWORK' SECTION FOR ADDITIONAL COMPACTION REQUIREMENTS.
9. APPLICATION
   - A. GRADING: DO ANY NECESSARY GRADING IN ADDITION TO THAT PERFORMED IN ACCORDANCE WITH EARTHWORK SECTION TO BRING SUBGRADES, AFTER FINAL COMPACTION, TO THE REQUIRED GRADES AND SECTIONS FOR SITE IMPROVEMENTS.
   - B. PREPARATION OF SUBGRADE: REMOVE SPONGY AND OTHERWISE UNSUITABLE MATERIAL AND REPLACE WITH STABLE MATERIAL. NO TRAFFIC WILL BE ALLOWED ON PREPARED SUBGRADE PRIOR TO PAVING.
   - C. COMPACTION OF SUBGRADE: THE FIRST 6 INCHES BELOW THE SUBGRADE SHALL BE COMPACTED TO AT LEAST 100% OF THE MAXIMUM DRY DENSITY AS DETERMINED BY THE PROVISIONS OF AASHO T-99. WATER SHALL BE PREVENTED FROM STANDING ON THE COMPACTED SUBGRADE.
   - D. UTILITY STRUCTURES: CHECK FOR CORRECT ELEVATION OF ALL MANHOLE COVERS, VALVE BOXES AND SIMILAR STRUCTURES LOCATED WITHIN AREAS TO BE PAVED, AND MAKE, OR HAVE MADE, ANY NECESSARY ADJUSTMENTS IN SUCH STRUCTURES.
   - E. PLACING CONCRETE
     1. SUBGRADE: PLACE CONCRETE ONLY ON A MOIST, COMPACTED SUBGRADE OR BASE FREE FROM LOOSE MATERIAL. PLACE NO CONCRETE ON A MUDDY OR FROZEN SUBGRADE.
     2. FORMS: ALL FORMS SHALL BE FREE FROM WARP, TIGHT ENOUGH TO PREVENT LEAKAGE AND SUBSTANTIAL ENOUGH TO MAINTAIN THEIR SHAPE AND POSITION WITHOUT SPRINGING OR SETTLING, WHEN CONCRETE IS PLACED. FORMS SHALL BE CLEAN AND SMOOTH IMMEDIATELY BEFORE CONCRETING.
     3. PLACING CONCRETE: CONCRETE SHALL BE DEPOSITED SO AS TO REQUIRE AS LITTLE REHANDLING AS PRACTICABLE. WHEN CONCRETE IS TO BE PLACED AT AN ATMOSPHERIC TEMPERATURE OF 35 DEGREES F. OR LESS, THE MOST CURRENT I.N.D.O.T. STANDARD SPECIFICATIONS SHALL BE FOLLOWED.
   - F. CONCRETE CURB
     1. EXPANSION JOINTS: SHALL BE 1/2 INCH THICK PREMOULDED AT ENDS OF ALL RETURNS AND AT A MAXIMUM SPACING OF 100 FEET.
     2. CONTRACTION JOINTS UNLESS OTHERWISE PROVIDED, CONTRACTION JOINTS SHALL BE SAWED JOINTS SPACED 10 FEET ON CENTER.
     3. FINISH: TAMP AND SCREED CONCRETE AS SOON AS PLACED, AND FILL ANY HONEY COMBED PLACES. FINISH SQUARE CORNERSTONE 1/4 INCH RADIUS AND OTHER CORNERS TO RADII SHOWN.
   - G. CONCRETE WALKS AND EXTERIOR STEPS
     1. SLOPES: PROVIDE ¼ INCH PER FOOT CROSS SLOPE. MAKE ADJUSTMENTS ON SLOPES AT WALK INTERSECTIONS AS NECESSARY TO PROVIDE PROPER DRAINAGE.
     2. DIMENSIONS: WALKS AND STEPS SHALL BE ONE COURSE CONSTRUCTION AND OF WIDTHS AND DETAILS SHOWN ON THE DRAWINGS.
     3. FINISH: SCREED CONCRETE AND TROWEL WITH A STEEL TROWEL TO A HARD DENSE SURFACE AFTER SURFACE WATER HAS DISAPPEARED. APPLY MEDIUM BROOM FINISH AND SCRIBE TRANSVERSE JOINTS AT 6 FOOT SPACING. PROVIDE ½ INCH EXPANSION JOINTS WHERE SIDEWALKS INTERSECT, AND AT A MAXIMUM SPACING OF 48 FEET BETWEEN EXPANSION JOINTS.
   - H. CURING CONCRETE FOR WALKS AND CURBS: EXCEPT AS OTHERWISE SPECIFIED, CURE ALL CONCRETE BY ONE OF THE METHODS DESCRIBED IN THE MOST CURRENT I.N.D.O.T. STANDARD SPECIFICATION.
   - I. BITUMINOUS PAVEMENT: HOT MIX ASPHALT PAVEMENT SHALL BE AS SPECIFIED IN THE MOST CURRENT I.N.D.O.T. STANDARD SPECIFICATION. PAVING WILL NOT BE PERMITTED DURING UNFAVORABLE WEATHER OR THEN THE TEMPERATURE IS 40 DEGREES F. AND FALLING.
   - J. COMPACTED AGGREGATE SUBBASE: THE THICKNESS SHOWN ON THE DRAWINGS IS THE MINIMUM THICKNESS OF THE FULL COMPACTED SUBBASE. COMPACTION SHALL BE ACCOMPLISHED BY ROLLING WITH A SMOOTH WHEELED ROLLER WEIGHING 8 TO 10 TONS. COMPACT TO 95% COMPACTION USING STANDARD TESTING PROCEDURES. ALONG CURBS, HEADERS AND WALLS AND AT ALL PLACES NOT ACCESSIBLE TO THE ROLLER, THE AGGREGATE MATERIAL SHALL BE TAMPED WITH MECHANICAL TAMPERS OR WITH APPROVED HAND TAMPERS.
   - K. CONCRETE RAMPS
     1. CONCRETE RAMPS FOR THE DISABLED SHALL BE REQUIRED AS SPECIFIED IN THE PLANS AND SHALL CONFORM WITH CURRENT SPECIFICATIONS ESTABLISHED BY THE AMERICAN DISABILITIES ACT (ADA), SECTION 4.7, "CURB RAMPS."
     2. THE CONCRETE RAMP SHALL BE FLUSH AND FREE OF ABRUPT CHANGES WITH SIDEWALKS, GUTTERS OR STREETS, AND PROVIDE A MAXIMUM SLOPE OF 1:12.
     3. THE MINIMUM WIDTH OF A CONCRETE RAMP SHALL BE (48) INCHES EXCLUSIVE OF FLARED SIDES.
     4. SIDES OF CONCRETE RAMPS SHALL HAVE FLARED SIDES AS SHOWN IN THE PLANS.

STORM SEWER SYSTEMS

1. SCOPE OF WORK
   - A. THE WORK UNDER THIS SECTION INCLUDES ALL STORM SEWERS, STORM WATER INLETS, AND RELATED ITEMS, INCLUDING EXCAVATING AND BACKFILLING NECESSARY TO COMPLETE THE WORK SHOWN ON THE DRAWINGS.
   - B. IN THE CASE OF ANY CONFLICTS WITH THESE SPECIFICATIONS AND LOCAL, STATE, FEDERAL SPECIFICATIONS THE MORE STRINGENT SHALL APPLY.
2. STORM SEWER CONSTRUCTION
   - A. STORM SEWERS
     1. STORM SEWER STRUCTURES SHALL COMPLY WITH CURRENT SPECIFICATIONS OF THE JOHNSON COUNTY ENGINEERING DEPARTMENT AND ALL OTHER RESPONSIBLE AGENCIES IN RESPECT TO DESIGN AND QUALITY OF CONSTRUCTION.
     2. ALL STORM SEWER CONSTRUCTION INSIDE PUBLIC RIGHT-OF-WAY, EITHER EXISTING OR TO BE DEDICATED, SHALL BE IN ACCORDANCE WITH THE MOST CURRENT I.N.D.O.T. STANDARD SPECIFICATION.
     3. WHERE REINFORCED CONCRETE PIPE IS SHOWN ON THE CONSTRUCTION PLANS, IT SHALL BE IN ACCORDANCE WITH A.S.T.M. C-76 CLASS III WALL "C" UNLESS OTHERWISE SPECIFIED ON THE PLANS.
     4. WHERE CORRUGATED METAL PIPE IS SHOWN ON THE CONSTRUCTION PLANS, IT SHALL BE 14 GAUGE ALUMINIZED UNLESS OTHERWISE SPECIFIED AND SHALL HAVE THE CONNECTING BANDS AND SEALS AS SPECIFIED BY THE MANUFACTURER. C.M.P. SHALL BE ALUMINIZED PIPE IN ACCORDANCE WITH A.S.T.M. A-444.
     5. MANHOLES, CATCH BASINS AND INLETS SHALL BE PRECAST CONCRETE.
        A. IF THE CONTRACTOR ELECTS TO USE ALTERNATE PRECAST STRUCTURES, HE SHALL SUBMIT SHOP DRAWINGS TO THE ENGINEER PRIOR TO ANY CONSTRUCTION.
     6. PRECAST CONCRETE AND STEEL FOR MANHOLES AND INLETS SHALL BE IN ACCORDANCE WITH A.S.T.M. C-478.
     7. CASTINGS SHALL BE AS SHOWN ON THE DETAIL SHEET(S) FOR MANUFACTURER, TYPE AND MODEL NUMBER.
     8. GRANULAR BACKFILL SHALL BE REQUIRED UNDER ALL PAVEMENT AREAS AND TRENCHES WITHIN FIVE(5) FEET OF THE EDGE OF PAVEMENT.
     9. ALL TRENCHES UNDER PAVEMENT SHALL BE COMPACTED TO 95 PERCENT MODIFIED PROCTOR.
3. APPLICATION
   - A. PERMITS AND CODES: THE INTENT OF THIS SECTION OF THE SPECIFICATIONS IS THAT THE CONTRACTOR'S BID ON THE WORK COVERED HEREIN SHALL BE BASED UPON THE DRAWINGS AND SPECIFICATIONS BUT THAT THE WORK SHALL COMPLY WITH ALL APPLICABLE CODES AND REGULATIONS AS AMENDED BY ANY WAIVERS. THE CONTRACTOR SHALL FURNISH ALL BONDS NECESSARY TO GET PERMITS FOR CUTS AND CONNECTIONS TO EXISTING SEWERS.
   - B. LOCAL STANDARDS: THE TERM "LOCAL STANDARDS" AS USED HEREIN MEANS THE STANDARDS OF DESIGN AND CONSTRUCTION OF THE RESPECTIVE MUNICIPAL DEPARTMENT OR UTILITY COMPANY.
   - C. EXISTING IMPROVEMENTS: THE CONTRACTOR SHALL MAINTAIN IN OPERATING CONDITION ALL ACTIVE UTILITIES, SEWERS AND OTHER DRAINS ENCOUNTERED IN THE SEWER INSTALLATION. THE CONTRACTOR SHALL REPAIR TO THE SATISFACTION OF THE OWNER ANY DAMAGE TO EXISTING ACTIVE IMPROVEMENTS.
   - D. WORKMANSHIP: THIS WORK SHALL CONFORM TO ALL LOCAL, STATE AND NATIONAL CODES AND TO BE APPROVED BY ALL LOCAL AND STATE AGENCIES HAVING JURISDICTION.
   - E. TRENCHING: LAY ALL PIPE IN OPEN TRENCHES, EXCEPT WHEN THE LOCAL AUTHORITY GIVES WRITTEN PERMISSION FOR TUNNELING. OPEN THE TRENCH SUFFICIENTLY AHEAD OF PIPE-LAYING TO REVEAL ANY OBSTRUCTIONS. THE MIN. WIDTH OF TRENCH SHALL BE 1.25 TIMES THE OUTSIDE DIA. OF PIPE. SHEET AND BRACE TRENCH AS NECESSARY TO PROTECT WORKMEN AND ADJACENT STRUCTURES. ALL TRENCHING TO COMPLY WITH OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION STANDARDS. KEEP TRENCHES FREE FROM WATER WHILE CONSTRUCTION IS IN PROGRESS. UNDER NO CIRCUMSTANCES SHALL PIPE OR APPURTENANCES BE LAID IN STANDING WATER. CONDUCT THE DISCHARGE FROM TRENCH DE-WATERING TO DRAINS OR NATURAL DRAINAGE CHANNELS.
   - F. SPECIAL SUPPORTS: WHENEVER, IN THE OPINION OF THE ENGINEER, THE SOIL AT OR BELOW THE PIPE GRADE IS UNSUITABLE FOR SUPPORTING SEWERS AND APPURTENANCES SPECIFIED IN THIS SECTION, SUCH SPECIAL SUPPORT, IN ADDITION TO THOSE SHOWN OR SPECIFIED, SHALL BE PROVIDED AS THE ENGINEER MAY DIRECT, AND THE CONTRACT WILL BE ADJUSTED.
   - G. BACKFILLING: BACKFILL SHALL BE PLACED AS SHOWN IN THE PLANS. NOTE THAT PVC & HDPE PIPE SHALL BE COVERED WITH 12" MINIMUM OF #8 STONE. COMPACT THIS BACKFILL THOROUGHLY, TAKING CARE NOT TO DISTURB THE PIPE. BACKFILL UNDER AND WITHIN 5 FEET OF WALKS, PARKING AREAS, DRIVEWAYS AND STREETS SHALL BE "B" BORROW OR EQUIVALENT GRANULAR MATERIAL ONLY AND THOROUGHLY COMPACTED BY APPROVED METHODS.
   - H. MANHOLE INVERTS: CONSTRUCT MANHOLE FLOW CHANNELS OF CONCRETE SEWER PIPE OR BRICK, SMOOTHLY FINISHED AND OF SEMICIRCULAR SECTION CONFORMING TO THE INSIDE DIAMETER OF THE CONNECTING SEWERS. MAKE CHANGES IN SIZE OR GRADE GRADUALLY AND CHANGES INDIRECTION BY TRUE CURVES. PROVIDE SUCH CHANNELS FOR ALL CONNECTING SEWERS AT EACH MANHOLE.
   - I. SUBDRAINS: ALL SUBDRAINS SHALL BE OF THE SIZE SHOWN ON THE PLANS AND SHALL BE CONSTRUCTED TO THE GRADES SHOWN. ALL DRAINS CONSTRUCTED OFF-SITE AS PART OF THE OUTLET DRAIN WILL BE LOCATED AS SHOWN.
   - J. UTILITIES: IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO VERITY ALL EXISTING UTILITIES AND CONDITIONS PERTAINING TO HIS WORK. IT SHALL ALSO BE THE CONTRACTOR'S RESPONSIBILITY TO CONTACT THE OWNERS OF THE VARIOUS UTILITIES BEFORE WORK IS STARTED. THE CONTRACTOR SHALL NOTIFY IN WRITING THE OWNER AND THE ENGINEER OF ANY CHANGES, ERRORS OR OMISSIONS FOUND ON THESE PLANS OR IN THE FIELD BEFORE WORK IS STARTED OR RESUMED.

WATER LINE SYSTEM

1. SCOPE OF WORK
   - A. THE WORK UNDER THIS SECTION INCLUDES ALL WATER MAIN, FIRE HYDRANTS, SERVICES AND RELATED ITEMS, INCLUDING EXCAVATING AND BACKFILLING NECESSARY TO COMPLETE THE WORK SHOWN ON THE DRAWINGS.
2. MATERIALS
   - A. ALL MATERIALS SHALL CONFORM TO ALL LOCAL, STATE, AND NATIONAL CODES AND SHALL BE APPROVED BY ALL LOCAL AND STATE AGENCIES HAVING JURISDICTION.
3. APPLICATION
   - A. PERMITS AND CODES: THE INTENT OF THIS SECTION OF THE SPECIFICATIONS IS THAT THE CONTRACTOR'S BID ON THE WORK COVERED HEREIN SHALL BE BASED UPON THE DRAWINGS AND SPECIFICATIONS BUT THAT THE WORK SHALL COMPLY WITH ALL APPLICABLE CODES AND REGULATIONS AS AMENDED BY ANY WAIVERS. THE CONTRACTOR SHALL FURNISH ALL BONDS NECESSARY TO GET PERMITS FOR CUTS AND CONNECTIONS TO EXISTING WATER MAINS.
   - B. LOCAL STANDARDS: THE TERM "LOCAL STANDARDS" AS USED HEREIN MEANS THE STANDARDS OF DESIGN AND CONSTRUCTION OF THE RESPECTIVE MUNICIPAL DEPARTMENT OR UTILITY COMPANY.
   - C. EXISTING IMPROVEMENTS: THE CONTRACTOR SHALL MAINTAIN IN OPERATING CONDITION ALL ACTIVE UTILITIES, SEWERS AND OTHER DRAINS ENCOUNTERED IN THE WATER LINE INSTALLATION. THE CONTRACTOR SHALL REPAIR TO THE SATISFACTION OF THE OWNER ANY DAMAGE TO EXISTING ACTIVE IMPROVEMENTS.
   - D. WORKMANSHIP: THIS WORK SHALL CONFORM TO ALL LOCAL, STATE AND NATIONAL CODES AND TO BE APPROVED BY ALL LOCAL AND STATE AGENCIES HAVING JURISDICTION. THIS INCLUDES ALL REQUIRED CLEANING AND TESTING PROCEDURES REQUIRED BY THE STATE AND LOCAL AGENCIES.
   - E. TRENCHING: LAY ALL PIPE IN OPEN TRENCHES, EXCEPT WHEN THE LOCAL AUTHORITY GIVES WRITTEN PERMISSION FOR TUNNELING. OPEN THE TRENCH SUFFICIENTLY AHEAD OF PIPE-LAYING TO REVEAL ANY OBSTRUCTIONS. THE MIN. WIDTH OF TRENCH SHALL BE 1.25 TIMES THE OUTSIDE DIA. OF PIPE. SHEET AND BRACE TRENCH AS NECESSARY TO PROTECT WORKMEN AND ADJACENT STRUCTURES. ALL TRENCHING TO COMPLY WITH OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION STANDARDS. KEEP TRENCHES FREE FROM WATER WHILE CONSTRUCTION IS IN PROGRESS. UNDER NO CIRCUMSTANCES SHALL PIPE OR APPURTENANCES BE LAID IN STANDING WATER. CONDUCT THE DISCHARGE FROM TRENCH DE-WATERING TO DRAINS OR NATURAL DRAINAGE CHANNELS.
   - F. SPECIAL SUPPORTS: WHENEVER, IN THE OPINION OF THE ENGINEER, THE SOIL AT OR BELOW THE PIPE GRADE IS UNSUITABLE FOR SUPPORTING PIPE AND APPURTENANCES SPECIFIED IN THIS SECTION, SUCH SPECIAL SUPPORT, IN ADDITION TO THOSE SHOWN OR SPECIFIED, SHALL BE PROVIDED AS THE ENGINEER MAY DIRECT, AND THE CONTRACT WILL BE ADJUSTED.
   - G. BACKFILLING: BACKFILL SHALL BE PLACED AS SHOWN IN THE PLANS. NOTE THAT PVC & HDPE PIPE SHALL BE COVERED WITH 12" MINIMUM OF #8 STONE. COMPACT THIS BACKFILL THOROUGHLY, TAKING CARE NOT TO DISTURB THE PIPE. BACKFILL UNDER AND WITHIN 5 FEET OF WALKS, PARKING AREAS, DRIVEWAYS AND STREETS SHALL BE "B" BORROW OR EQUIVALENT GRANULAR MATERIAL ONLY AND THOROUGHLY COMPACTED BY APPROVED METHODS.
   - H. UTILITIES: IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY ALL EXISTING UTILITIES AND CONDITIONS PERTAINING TO HIS WORK. IT SHALL ALSO BE THE CONTRACTOR'S RESPONSIBILITY TO CONTACT THE OWNERS OF THE VARIOUS UTILITIES BEFORE WORK IS STARTED. THE CONTRACTOR SHALL NOTIFY IN WRITING THE OWNER AND THE ENGINEER OF ANY CHANGES, ERRORS OR OMISSIONS FOUND ON THESE PLANS OR IN THE FIELD BEFORE WORK IS STARTED OR RESUMED.

SANITARY SEWER SYSTEMS

1. SCOPE OF WORK
   - A. THE WORK UNDER THIS SECTION INCLUDES ALL SANITARY SEWERS, MANHOLES, CLEANOUTS AND RELATED ITEMS INCLUDING EXCAVATING AND BACKFILLING, NECESSARY TO COMPLETE THE WORK SHOWN IN THE DRAWINGS, STARTING OUTSIDE THE BUILDING WALLS. THE END OF SEWERS SHALL BE TIGHTLY PLUGGED OR CAPPED AT THE TERMINAL POINTS, ADJACENT TO THE BUILDING DRAIN AS SPECIFIED IN THE PLUMBING SPECIFICATIONS AND/OR ARCHITECTURAL DRAWINGS.
2. MATERIALS
   - A. SANITARY SEWERS
     1. ALL GRAVITY PLASTIC SEWER PIPE FITTINGS SHALL CONFORM TO ASTM D3034 WITH A CELL CLASSIFICATION OF 12454-B OR 12454-C. FLEXIBLE GASKETED COMPRESSION JOINTS SHALL BE USED FOR PVC & PVC TRUSS PIPE. NO SOLVENT CEMENT JOINTS SHALL BE ALLOWED.
     2. ABS SEWER PIPE AND FITTINGS SHALL CONFORM TO ASTM D2680 LATEST REVISION.
     3. TRACER WIRE SHALL BE INSTALLED WITH ALL NEW SANITARY PIPE.
   - B. SANITARY FORCE MAINS
     1. ALL SANITARY FORCE MAIN PIPE AND FITTINGS SHALL CONFORM TO ASTM D2241, STANDARD SPECIFICATION FOR POLY VINYL CHLORIDE (PVC) PRESSURE-RATED PIPE, (SDR 21, GREATER THAN 4 INCH DIAMETER).
     2. TRACER WIRE SHALL BE INSTALLED WITH ALL SANITARY FORCE MAIN PIPE.
3. APPLICATION
   - A. PERMITS AND CODES:
     THE INTENT OF THIS SECTION OF THE SPECIFICATIONS IS THAT THE CONTRACTOR'S BID ON THE WORK COVERED HEREIN SHALL BE BASED UPON THE DRAWINGS AND SPECIFICATIONS BUT THAT THE WORK SHALL COMPLY WITH ALL APPLICABLE CODES AND REGULATIONS AS AMENDED BY ANY WAIVERS. CONTRACTOR SHALL FURNISH ALL BONDS NECESSARY TO GET PERMITS FOR CUTS AND CONNECTIONS TO EXISTING SEWERS.
   - B. LOCAL STANDARDS:
     THE TERM "LOCAL STANDARDS" AS USED HEREIN MEANS THE STANDARDS OF DESIGN AND CONSTRUCTION OF THE RESPECTIVE MUNICIPAL DEPARTMENT OR UTILITY COMPANY.
   - C. EXISTING IMPROVEMENTS:
     THE CONTRACTOR SHALL MAINTAIN IN OPERATING CONDITION ALL ACTIVE UTILITIES, SEWERS AND OTHER DRAINS ENCOUNTERED IN THE SEWER INSTALLATION. THE CONTRACTOR SHALL REPAIR TO THE SATISFACTION OF THE OWNER ANY DAMAGE TO EXISTING ACTIVE IMPROVEMENTS.
   - D. WORKMANSHIP:
     THIS WORK SHALL CONFORM TO ALL LOCAL, STATE AND NATIONAL CODES AND TO BE APPROVED BY ALL LOCAL AND STATE AGENCIES HAVING JURISDICTION.
   - E. TRENCHING:
     LAY ALL PIPE IN OPEN TRENCHES, EXCEPT WHEN THE LOCAL AUTHORITY GIVES WRITTEN PERMISSION FOR TUNNELING. OPEN THE TRENCH SUFFICIENTLY AHEAD OF PIPE-LAYING TO REVEAL ANY OBSTRUCTIONS. THE MIN. WIDTH OF TRENCH SHALL BE 1.25 TIMES THE OUTSIDE DIA. PLUS 12 INCHES. SHEET AND BRACE TRENCH AS NECESSARY TO PROTECT WORKMEN AND ADJACENT STRUCTURES. ALL TRENCHING TO COMPLY WITH OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION STANDARDS. KEEP TRENCHES FREE FROM WATER WHILE CONSTRUCTION IS IN PROGRESS. UNDER NO CIRCUMSTANCES SHALL PIPE OR APPURTENANCES BE LAID IN STANDING WATER. CONDUCT THE DISCHARGE FROM TRENCH DE-WATERING TO DRAINS OR NATURAL DRAINAGE CHANNELS.
   - F. SPECIAL SUPPORTS:
     WHENEVER, IN THE OPINION OF THE ENGINEER, THE SOIL AT OR BELOW THE PIPE GRADE IS UNSUITABLE FOR SUPPORTING SEWERS AND APPURTENANCES SPECIFIED IN THIS SECTION, SUCH SPECIAL SUPPORT, IN ADDITION TO THOSE SHOWN OR SPECIFIED, SHALL BE PROVIDED AS THE ENGINEER MAY DIRECT, AND THE CONTRACT WILL BE ADJUSTED.
   - G. BACKFILLING:
     BACKFILL SHALL BE PLACED AS SHOWN IN THE PLANS. COMPACT THIS BACKFILL THOROUGHLY, TAKING CARE NOT TO DISTURB THE PIPE. BACKFILL UNDER AND WITHIN 5 FEET OF WALKS, PARKING AREAS, DRIVEWAYS AND STREETS SHALL BE GRANULAR MATERIAL ONLY AND THOROUGHLY COMPACTED BY APPROVED METHODS.
   - H. PLASTIC SEWER PIPE INSTALLATION:
     PLASTIC SEWER PIPE SHALL BE INSTALLED IN ACCORDANCE WITH ASTM D2321 PER LATEST REVISION. PIPES SHALL BE TESTED AFTER THIRTY DAYS, USING A MANDREL THAT IS 95% OF THE INSIDE DIAMETER OF THE PIPE BEING TESTED. SAID MANDREL SHALL BE PULLED BY HAND THROUGH EACH PIPE SECTION TO ENSURE DEFLECTION IS LESS THAN ACCEPTABLE LIMITS.
   - I. STORM WATER CONNECTIONS:
     NO ROOF DRAINS, FOOTING DRAINS AND/OR SURFACE WATER DRAINS MAY BE CONNECTED TO THE SANITARY SEWER SYSTEMS, INCLUDING TEMPORARY CONNECTIONS DURING CONSTRUCTION.
   - J. WATERLINE CROSSING:
     WHERE WATER LINES AND SANITARY SEWERS CROSS AND WATER LINES CANNOT BE PLACED ABOVE THE SEWER WITH A MINIMUM OF 18 INCHES VERTICAL CLEARANCE, THE SEWER MUST BE CONSTRUCTED OF WATER WORKS GRADE DUCTILE IRON PIPE WITH MECHANICAL JOINTS WITHIN 10 FEET OF THE WATER LINE.
   - K. UTILITIES:
     IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO VERITY ALL EXISTING UTILITIES AND CONDITIONS PERTAINING TO HIS WORK. IT SHALL ALSO BE THE CONTRACTOR'S RESPONSIBILITY TO CONTACT THE OWNERS OF THE VARIOUS UTILITIES BEFORE WORK IS STARTED. THE CONTRACTOR SHALL NOTIFY IN WRITING THE OWNER AND THE ENGINEER OF ANY CHANGES, ERRORS OR OMISSIONS FOUND ON THESE PLANS OR IN THE FIELD BEFORE WORK IS STARTED OR RESUMED.
   - L. SERVICE LATERALS:
     INDIVIDUAL BUILDING LINES SHALL BE 6 INCHES IN DIAMETER AND OF MATERIAL EQUAL TO THAT SPECIFIED IN 2A OF THIS SECTION. SERVICE LINES SHALL BE CONNECTED TO THE MAIN SEWER AT LOCATIONS SHOWN IN THESE PLANS.

CROSSROAD ENGINEERS, PC
Transportation & Development Consultants
115 N. 17th AVENUE, BEECH GROVE, IN 46107 (317) 780-1555

SHEET 1000

SPECIFICATIONS

CENTER GROVE WELLNESS CENTER

JOB No.	.	DRAWN	DEP	CHECKED	TEN
DATE	AUGUST 9, 2022	DESIGNED	CDM	APPR.	GJI

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

NO.	DATE	REVISIONS	BY	APPR.
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LANDSCAPE LEGEND

LARGE SHRUBS

BGV — **62** GREEN VELVET BOXWOOD
BUXUS VIRGINIANA 'GREEN VELVET'
3 GAL. 30" O.C.

MEDIUM SHRUBS

TMA — **65** JAPANESE YEW
TAXUS X MEDIA
18" HEIGHT MINIMUM 4' O.C.

EVERGREEN TREES

PPS — **19** BLUE SPRUCE
PICEA PUNGENS
4' HEIGHT MINIMUM

SHADE TREES

AOG — **21** OCTOBER GLORY RED MAPLE
ACER RUBRUM 'OCTOBER GLORY'
2.5" CALIPER MINIMUM, 6' CLEAR TRUNK

ORNAMENTAL TREES

CKA — 5 — JAPANESE DOGWOOD
CORNUS KOUSA
1.5" CALIPER 6' CLEAR TRUNK

GROUNDCOVER

SEED AND MULCH S.F. ± 122,220
LOW MAINTENANCE MIX AS AVAILABLE FROM INDIANA SEED SOLUTIONS 65% TALL FESCUE, 25% PRG, 10% CR FESCUE

NOTE: TREES SHALL BE PLANTED AT LEAST TWO AND ONE-HALF FEET (2'6") FROM A SIDEWALK OR CURB EDGE

LANDSCAPING REQUIREMENTS

BUFFER YARD REQUIREMENTS
(1 TREE EVERY 20', 70% EVERGREEN & 30% DECIDUOUS)
(1 SHRUB EVERY 6', NON-DECIDUOUS)

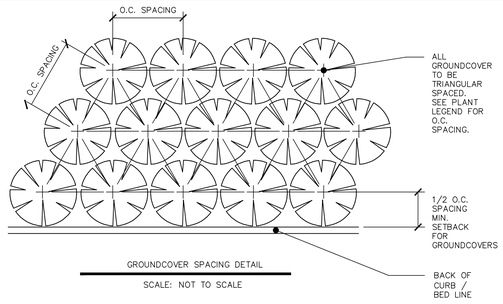
PROPERTY LINE	TREES PROVIDED	BUSHES PROVIDED
NORTH	7 (72% EVERGREEN)	26 (6' O.C.)
SOUTH	10 (70% EVERGREEN)	37 (6' O.C.)
EAST	N/A	N/A
WEST	11 (64% EVERGREEN)	36 (6' O.C.)

PERIMETER REQUIREMENTS
(1 ORNAMENTAL TREE EVERY 40', 1 SHRUB EVERY 4')

PROPERTY LINE	TREES PROVIDED	BUSHES PROVIDED
NORTH	–	–
SOUTH	–	–
EAST	5 (40' O.C.)	28 (4' O.C.)
WEST	EXISTING VEGETATION TO REMAIN	

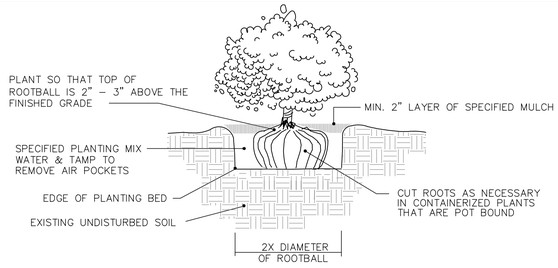
INTERIOR LANDSCAPING

GROSS VEHICLE AREA = 29,181 S.F.
MINIMUM 5% INTERIOR LANDSCAPE = 1459 S.F.
INTERIOR LANDSCAPE AREA PROVIDED = 3,620 S.F. (12.4%)
SHADE TREES REQUIRED = 12 TREES (1 PER 120 SFT OF REQ. AREA)
SHADE TREES PROVIDED = 12 TREES



GROUNDCOVER SPACING DETAIL

SCALE: NOT TO SCALE



SHRUB/GROUNDCOVER PLANTING DETAIL

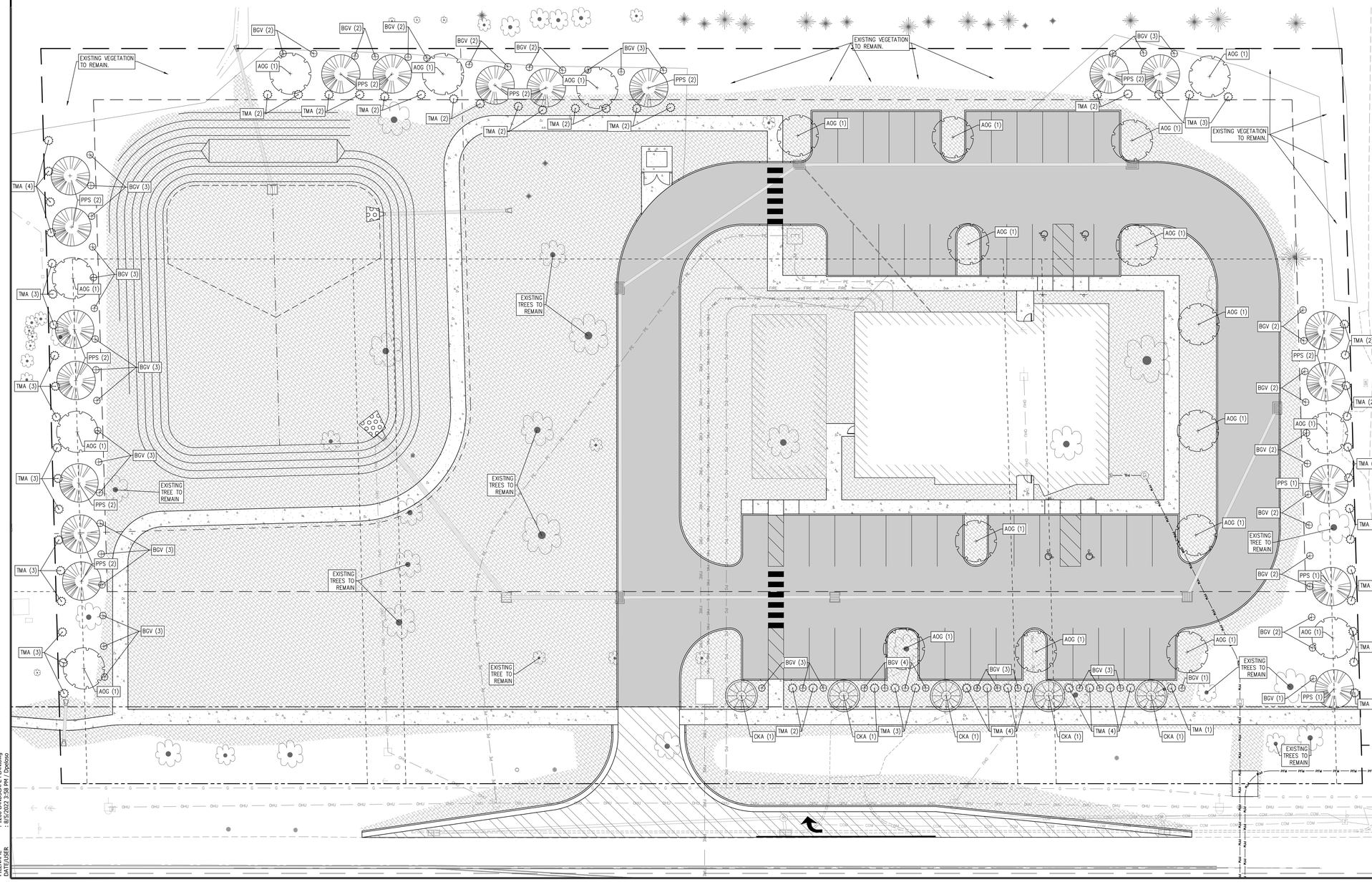
SCALE: NOT TO SCALE

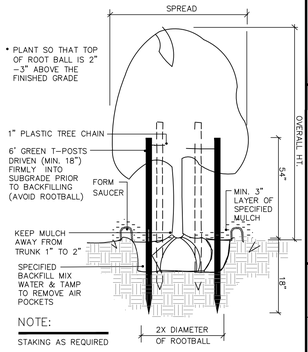
LANDSCAPE PLANTING DETAILS

NOT TO SCALE

SCALE: 1" = 20'

EXISTING CONTOUR INTERVAL = 1'
PROPOSED CONTOUR INTERVAL = 1'





TREE PLANTING AND STAKING DETAIL

SCALE: NOT TO SCALE

LANDSCAPE NOTES

1. THE GENERAL CONTRACTOR IS RESPONSIBLE FOR REMOVING ALL VEGETATION AND LEAVING ALL LANDSCAPE AREAS AT TWO INCHES BELOW FINAL GRADE. THE LANDSCAPE CONTRACTOR WILL PROVIDE AND SPREAD A COMPACTED TWO INCH DEPTH OF LOAMY TOPSOIL IN ALL TURF AREAS – BRINGING THESE AREAS TO TOP OF CURB/FINAL GRADE (COMPACTED). THE LANDSCAPE CONTRACTOR WILL PROVIDE AND INSTALL A FOUR INCH DEPTH OF PLANTING MIX TO ALL PLANTING BEDS – CROWNING FOR PROPER DRAINAGE. (SEE SPECIFICATIONS FOR MORE DETAILED INSTRUCTION ON TURF AREA AND PLANTING BED PREPARATION.)
2. A THREE INCH DEPTH OF SHREDDED HARDWOOD BARK MULCH WILL BE USED AS A TOP DRESSING FOR ALL PLANTING BEDS AND TREE RINGS.
3. LANDSCAPE CONTRACTOR SHALL MAKE OWN PLANT QUANTITY TAKEOFFS USING DRAWINGS, SPECIFICATIONS AND PLANT SCHEDULE. PLANT SCHEDULE REQUIREMENTS (I.E. SPACING) DICTATE, UNLESS OTHERWISE DIRECTED BY THE LANDSCAPE DESIGNER. LANDSCAPE CONTRACTOR TO VERIFY BED MEASUREMENTS AND INSTALL APPROPRIATE QUANTITIES AS GOVERNED BY THE THE PLANT SPACING PER THE SCHEDULE. ENSURE ALL MINIMUM REQUIREMENTS OF THE LOCAL GOVERNING AUTHORITY ARE MET (I.E. MINIMUM PLANT QUANTITIES.)
4. NO SUBSTITUTIONS OF PLANT MATERIALS WILL BE ALLOWED. IF PLANTS ARE NOT AVAILABLE, THE LANDSCAPE CONTRACTOR SHALL NOTIFY THE LANDSCAPE DESIGNER IN WRITING (VIA PROPER CHANNELS). PLANTS MAY BE INSPECTED AND APPROVED OR REJECTED ON THE JOBSITE BY THE OWNER OR THE OWNER'S REPRESENTATIVE.
5. LANDSCAPE CONTRACTOR IS RESPONSIBLE FOR THE LANDSCAPE MAINTENANCE OF THIS PROJECT UNTIL FINAL ACCEPTANCE. TURF AREAS WILL NOT BE ACCEPTED UNTIL THEY AREA AT A MINIMUM OF 1-1/2 INCHES TALL, AND NO BARE AREAS LARGER THAN 12 SQUARE INCHES.
6. TREES SHALL BE PLANTED AT LEAST TWO AND ONE-HALF FEET (2'-6") FROM SIDEWALK OR CURB EDGE.

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LANDSCAPE PLAN

CENTER GROVE WELLNESS CENTER

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GREGORY J. ILKO
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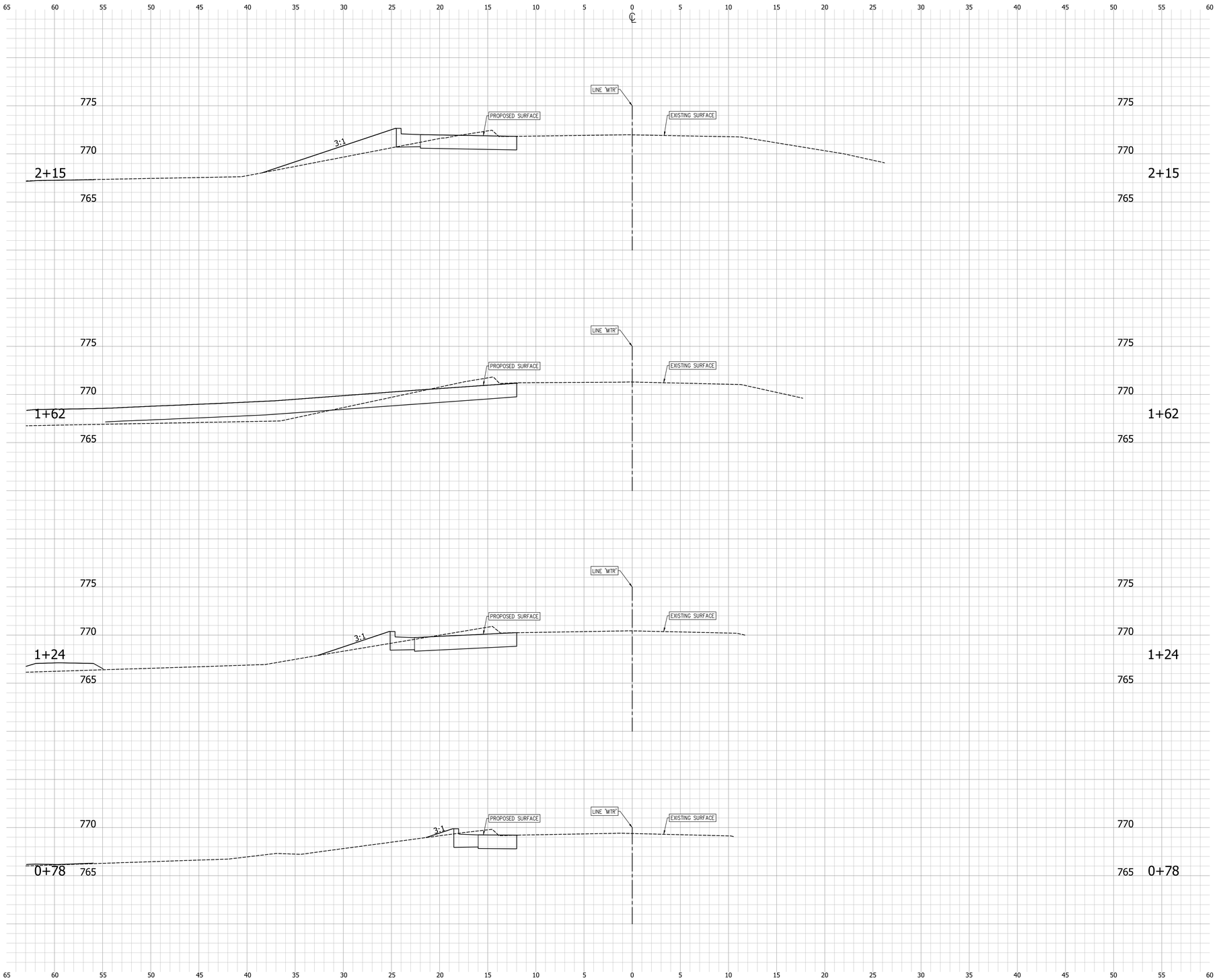

CROSS SECTIONS

CENTER GROVE WELLNESS CENTER

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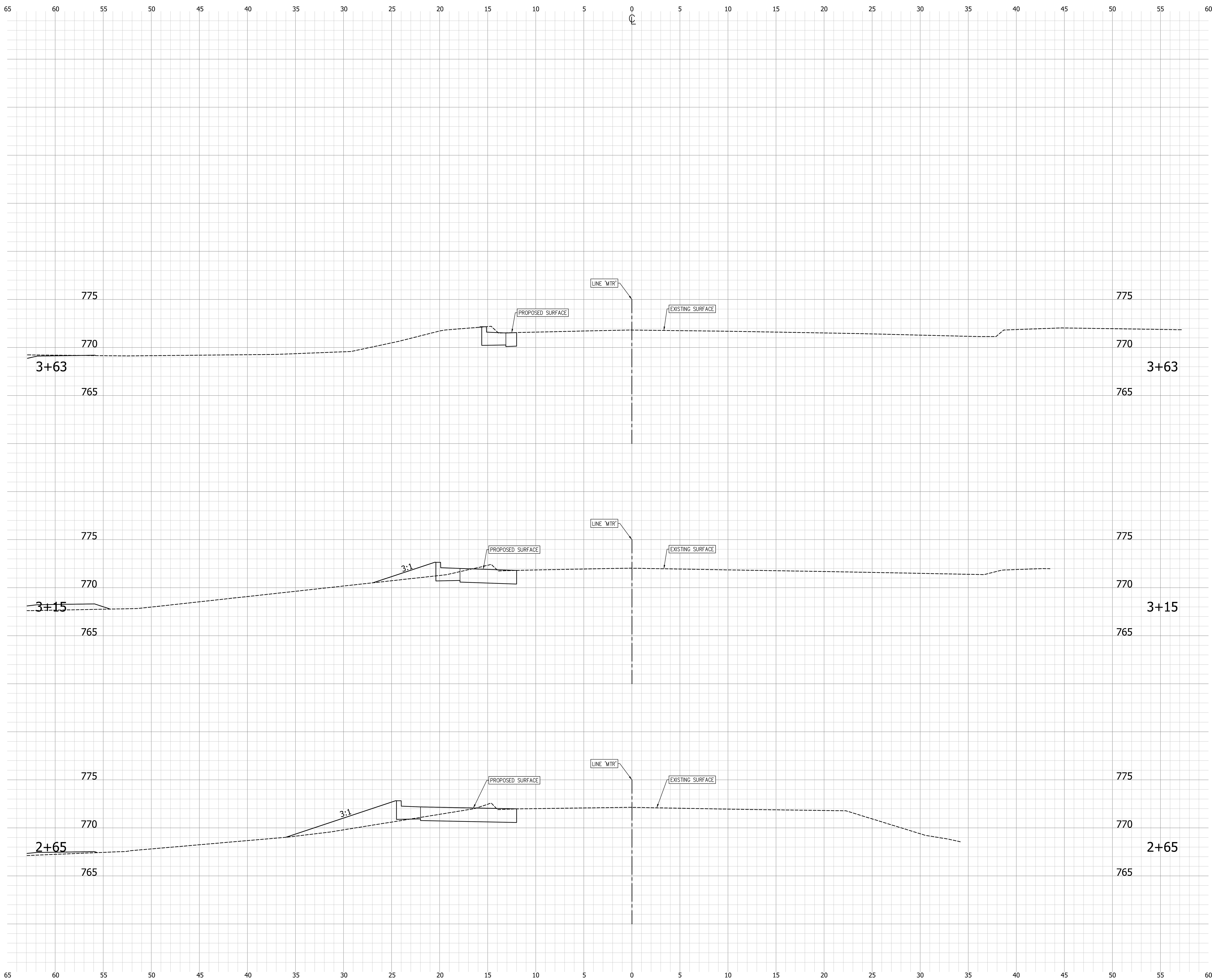

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GREGORY J. ILKO REGISTERED NO. 10300059 STATE OF INDIANA PROFESSIONAL ENGINEER

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