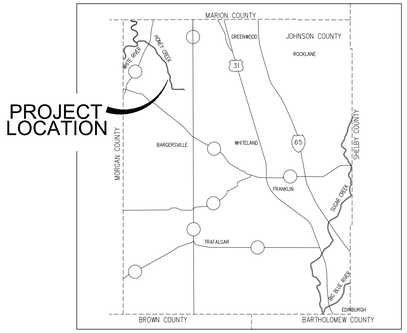
FINAL CONSTRUCTION PLANS

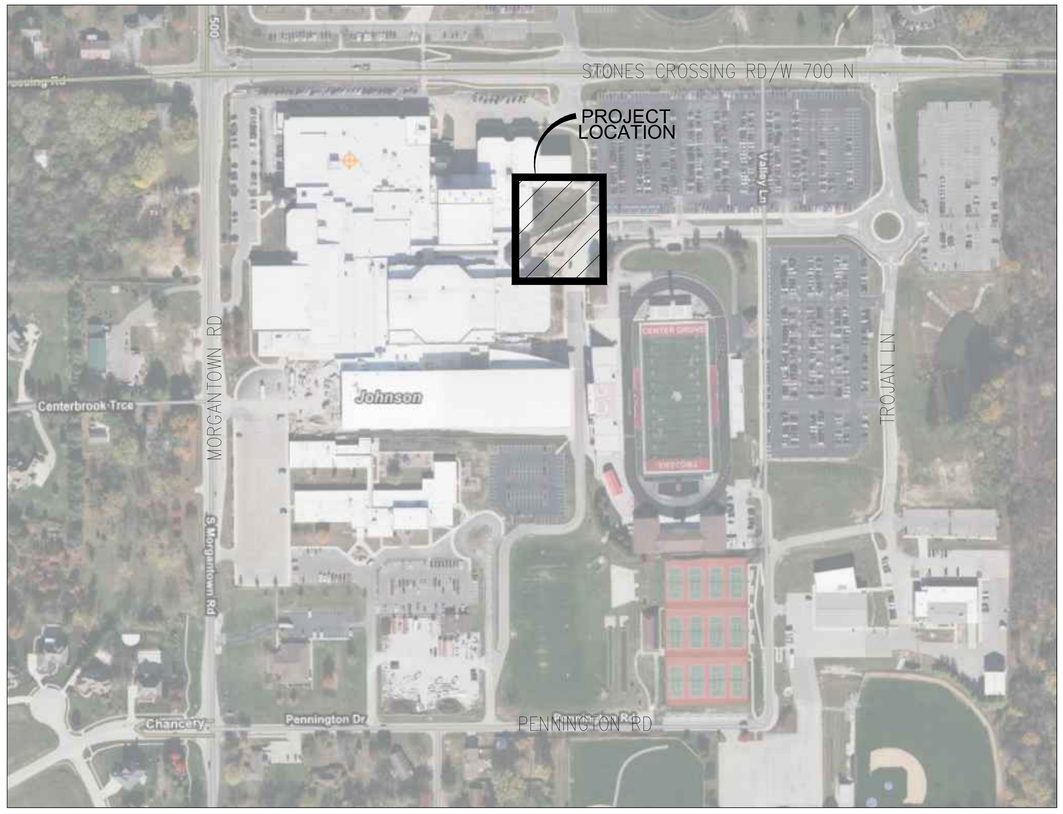
CENTER GROVE HIGH SCHOOL

BLACK BOX THEATER



COUNTY LOCATION MAP

NO SCALE



LOCATION MAP

NO SCALE

PLAN INDEX

SHEET #	SUBJECT
100	TITLE SHEET
200	TOPOGRAPHIC SURVEY & DEMOLITION PLAN
300	SITE DIMENSION PLAN
301	CONCRETE TERRACE DETAILS
400	UTILITY PLAN
401	STORM PLAN & PROFILE
500	GRADING PLAN
600	EROSION CONTROL PLAN
601	EROSION CONTROL NOTES
700–701	MISCELLANEOUS DETAILS
800	SPECIFICATIONS

BENCHMARK INFORMATION

BM #1
ORIGINATING BENCHMARK

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

VERT ORDER – FIRST CLASS II

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

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

ELEV. = 685.94 (NAVD 88)

TBM #423
"CUT BOX" ON NORTH SIDE OF FARTHEST WEST LIGHT POLE BASE ON SOUTH SIDE OF ROAD EAST OF SITE.

ELEV. = 749.32

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.

LEGAL DESCRIPTION

BOOK 98, PAGE 451
PART OF THE WEST HALF OF THE NORTHWEST QUARTER OF SECTION FIFTEEN (15), TOWNSHIP THIRTEEN (13) NORTH, RANGE THREE (3) EAST OF THE SECOND PRINCIPAL MERIDIAN, DESCRIBED AS FOLLOWS:

BEGINNING AT THE NORTHWEST CORNER OF SAID HALF QUARTER SECTION; THENCE SOUTH ON THE WEST LINE THEREOF, TWENTY–FIVE (25) RODS; THENCE EAST AND PARALLEL WITH THE NORTH LINE OF SAID HALF QUARTER SECTION, TWENTY–SIX (26) RODS AND TWENTY–FOUR (24) LINKS; THENCE SOUTH AND PARALLEL TO THE WEST LINE OF SAID HALF QUARTER SECTION, THIRTY–SEVEN (37) RODS AND TWENTY (20) LINKS; THENCE EAST AND PARLLEL WITH THE NORTH LINE OF SAID HALF QUARTER SECTION, FIFTY–FIVE (55) RODS AND ONE (1) LINK, MORE OR LESS, TO THE EAST LINE OF SAID HALF QUARTER SECTION; THENCE NORTH, SIXTY–TWO (62) RODS AND TWENTY (20) LINKS TO THE NORTHEAST CORNER THEREOF; THENCE WEST, EIGHTY (80) RODS, MORE OR LESS, TO THE PLACE OF BEGINNING, CONTAINING TWENTY–FIVE (25) ACRES, MORE OR LESS.

UTILITIES

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

SEWER
GREENWOOD SANITATION
367 S. WASHINGTON ST.
GREENWOOD, IN 46143
PHONE: (317) 888–1254
CONTACT: KEITH MEIER

WATER
BARGERSVILLE WATER
24 N. MAIN STREET
BARGERSVILLE, IN 46106
PHONE: (317) 422–3170
CONTACT: KEVIN KILLINGER

CABLE
COMCAST
1600 W. VERNAL PIKE
BLOOMINGTON, IN 47404
PHONE: (812) 360–3090
CONTACT: STEVE McARTOR

FIBER
ZAYO
9209 CASTLE GATE DRIVE
INDIANAPOLIS, IN 46256
PHONE: (765) 341–1199
CONTACT: WAYLON HIGGINS

TELEPHONE
AT&T
240 N. MERIDIAN STREET
INDIANAPOLIS, IN 46204
PHONE: (317) 265–3050
CONTACT: MATT SPINDLER

ELECTRIC
JOHNSON COUNTY REMC
750 INTERNATIONAL DRIVE
FRANKLIN, IN 46131
PHONE: (317) 738–7622
CONTACT: DOUG STAHL

METRONET
3701 COMMUNICATIONS WAY
EVANSVILLE, IN 47715
PHONE: (812) 213–1050
CONTACT: LORI KEMPER

FIRE DEPARTMENT
BARGERSVILLE FIRE DEPARTMENT
3991 N. ST. RD. 135
BARGERSVILLE, IN 46106
PHONE: (317) 422–5187
CONTACT: KEVIN KILLINGER

GAS
CENTERPOINT ENERGY
1800 W. 26th STREET
MUNCIE, IN 47302
PHONE: (765) 287–2119
CONTACT: JON EASTHAM

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.

TOTAL DISTURBED AREA

PROPOSED IMPROVEMENTS: 0.331 acres

OWNER/DEVELOPER
CENTER GROVE COMMUNITY SCHOOL CORPORATION
3653 WEST WHITELAND ROAD
PHONE: (317) 881-0515
CONTACT: DARRELL THOMPSON
EMAIL: thompsonjrd@centergrove.k12.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

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

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

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

DIRECTORY PATH : R:\Active\Center Grove Community School Corporation\Black Box\Design\CAD\Plans
FILENAME : 100 TITLE SHEET.dwg
DATE/USER : 1/23/2023 9:07 AM / Dpeloso

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

TITLE SHEET

CG HIGH SCHOOL BLACK BOX THEATER

JOB No. . | DRAWN DEP | CHECKED CJI | APPR. CJI
DATE FEBRUARY 07, 2023 | DESIGNED DJM

SHEET 100

GREGORY J. ILKO — REGISTERED PROFESSIONAL ENGINEER — PRELIMINARY NOT FOR CONSTRUCTION — 10300059 — STATE OF INDIANA

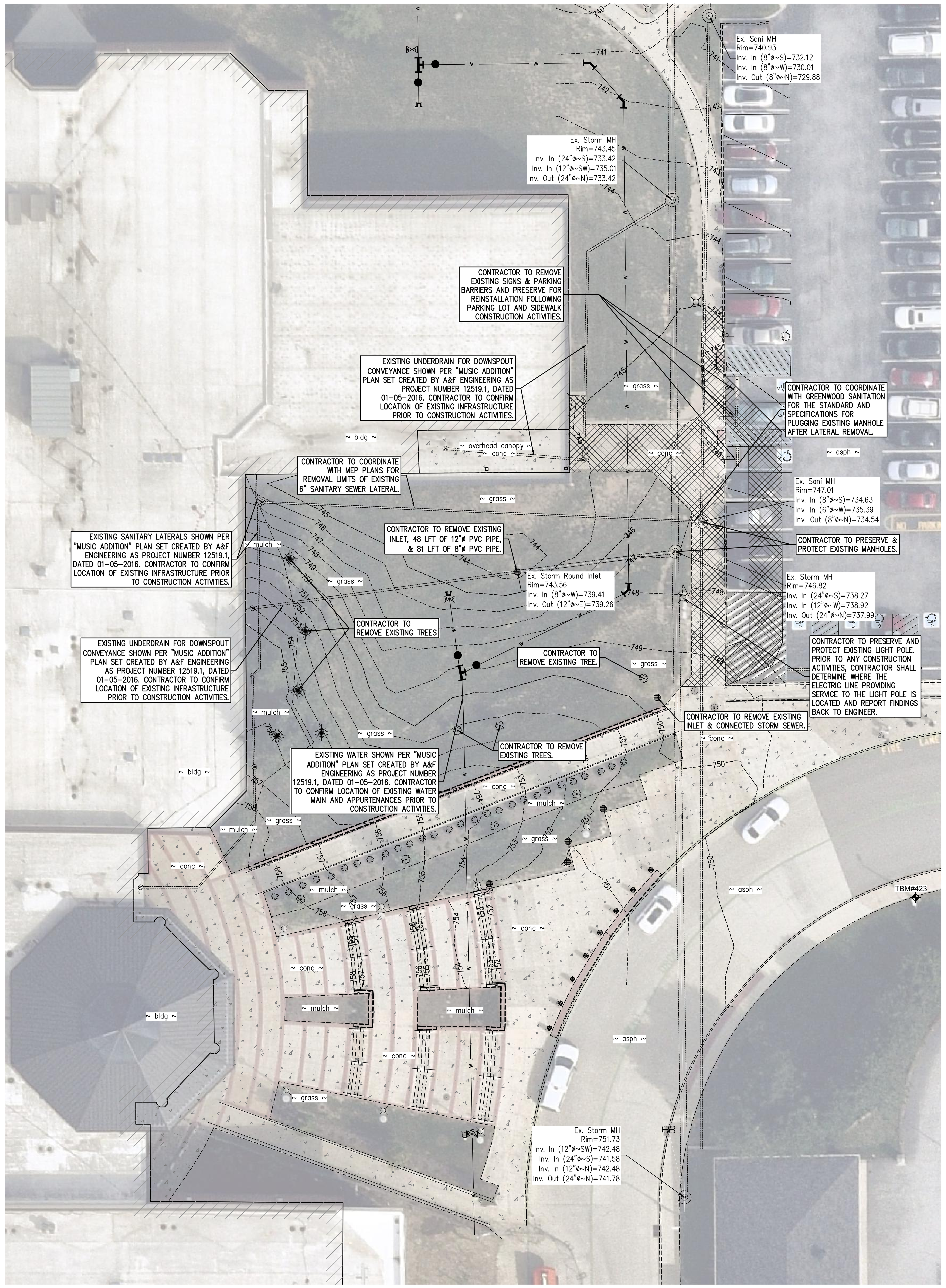
NO.	DATE	REVISIONS	BY	APPR.
1				
2				
3				
4				
5				
6				
7				
8				
9				

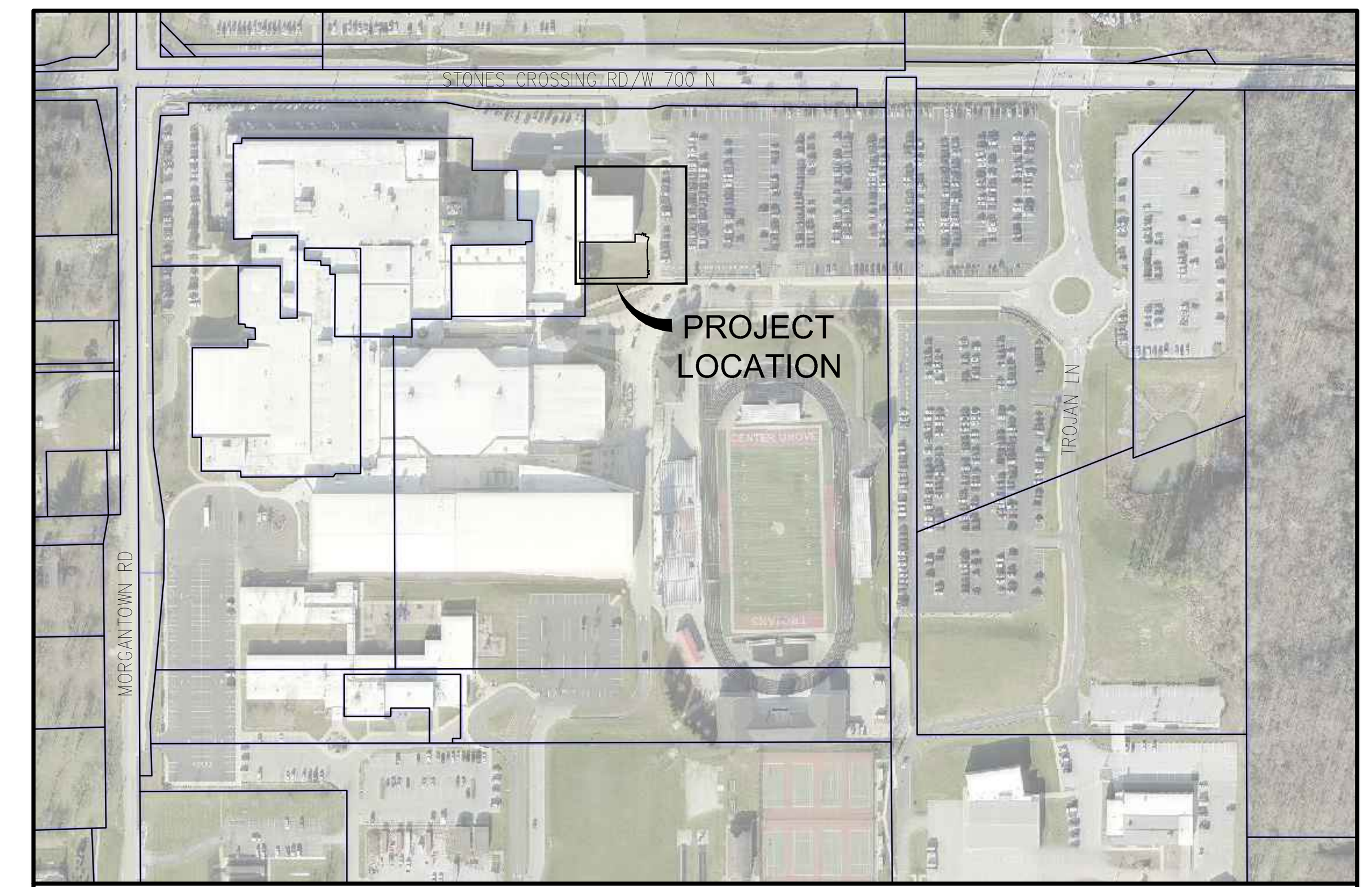
20 0 20 40

SCALE: 1" = 20'

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

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





KEYMAP

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.

BENCHMARK INFORMATION

BM #1
ORIGINATING BENCHMARK

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

VERT ORDER – FIRST CLASS II

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

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

ELEV. = 685.94 (NAVD 88)

TBM #423
"CUT BOX" ON NORTH SIDE OF FARTHEST WEST LIGHT POLE BASE ON SOUTH SIDE OF ROAD EAST OF SITE.

ELEV. = 749.32

LEGAL DESCRIPTION

BOOK 98, PAGE 451
PART OF THE WEST HALF OF THE NORTHWEST QUARTER OF SECTION FIFTEEN (15), TOWNSHIP THIRTEEN (13) NORTH, RANGE THREE (3) EAST OF THE SECOND PRINCIPAL MERIDIAN, DESCRIBED AS FOLLOWS:

BEGINNING AT THE NORTHWEST CORNER OF SAID HALF QUARTER SECTION; THENCE SOUTH ON THE WEST LINE THEREOF, TWENTY-FIVE (25) RODS; THENCE EAST AND PARALLEL WITH THE NORTH LINE OF SAID HALF QUARTER SECTION, TWENTY-SIX (26) RODS AND TWENTY-FOUR (24) LINKS; THENCE SOUTH AND PARALLEL TO THE WEST LINE OF SAID HALF QUARTER SECTION, THIRTY-SEVEN (37) RODS AND TWENTY (20) LINKS; THENCE EAST AND PARLLEL WITH THE NORTH LINE OF SAID HALF QUARTER SECTION, FIFTY-FIVE (55) RODS AND ONE (1) LINK, MORE OR LESS, TO THE EAST LINE OF SAID HALF QUARTER SECTION; THENCE NORTH, SIXTY-TWO (62) RODS AND TWENTY (20) LINKS TO THE NORTHEAST CORNER THEREOF; THENCE WEST, EIGHTY (80) RODS, MORE OR LESS, TO THE PLACE OF BEGINNING, CONTAINING TWENTY-FIVE (25) ACRES, MORE OR LESS.

UTILITIES

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

SEWER
GREENWOOD SANITATION
367 S. WASHINGTON ST.
GREENWOOD, IN 46143
PHONE: (317) 888-1254
CONTACT: KEITH MEIER

WATER
BARGERSVILLE WATER
24 N. MAIN STREET
BARGERSVILLE, IN 46106
PHONE: (317) 422-3170
CONTACT: KEVIN KILLINGER

CABLE
COMCAST
1600 W. VERNAL PIKE
BLOOMINGTON, IN 47404
PHONE: (812) 360-3090
CONTACT: STEVE McARTOR

FIBER
ZAYO
9209 CASTLE GATE DRIVE
INDIANAPOLIS, IN 46256
PHONE: (765) 341-1199
CONTACT: WAYLON HIGGINS

TELEPHONE
AT&T
240 N. MERIDIAN STREET
INDIANAPOLIS, IN 46204
PHONE: (317) 265-3050
CONTACT: MATT SPINDLER

ELECTRIC
JOHNSON COUNTY REMC
750 INTERNATIONAL DRIVE
FRANKLIN, IN 46131
PHONE: (317) 738-7622
CONTACT: DOUG STAHL

METRONET
3701 COMMUNICATIONS WAY
EVANSVILLE, IN 47715
PHONE: (812) 213-1050
CONTACT: LORI KEMPER

FIRE DEPARTMENT
BARGERSVILLE FIRE DEPARTMENT
3991 N. ST. RD. 135
BARGERSVILLE, IN 46106
PHONE: (317) 422-5187
CONTACT: KEVIN KILLINGER

GAS
CENTERPOINT ENERGY
1800 W. 26th STREET
MUNCIE, IN 47302
PHONE: (765) 287-2119
CONTACT: JON EASTHAM

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.

EXISTING LEGEND

LIGHT POLE
STORM ROUND INLET
TREE, BUSH & STUMP
TEMP. BENCHMARK
CLEANOUT
TELEPHONE MANHOLE
ELECTRIC MANHOLE
WATER VALVE
WATER BEND
WATER VALVE
WATER LINE PLUG
WATER TEE
800 CONTOURS
PAVEMENT LINE
WATER LINE
UNDERDRAIN LINE
STORM SEWER W/ MANHOLE & END SECTION
SANITARY SEWER W/ MANHOLE
ASPHALT
CONCRETE
BUILDING
REMOVAL/DEMOLISH

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

SHEET 200

TOPOGRAPHIC SURVEY & DEMOLITION PLAN

CG HIGH SCHOOL BLACK BOX THEATER

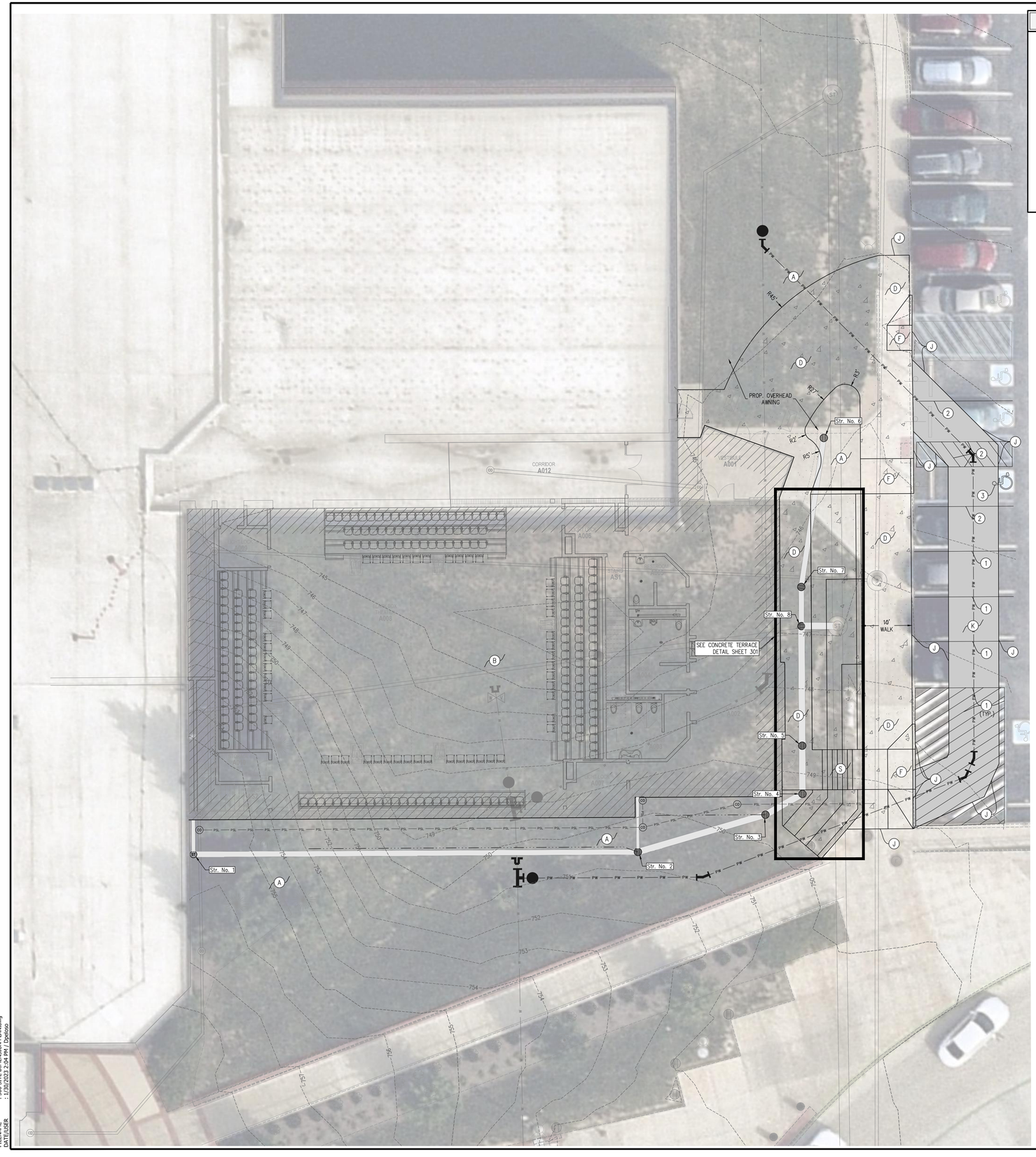
JOB No.	.	DRAWN	DEP	CHECKED	GJI
DATE	FEBRUARY 07, 2023	DESIGNED	DJM	APPR.	GJI

GREGORY J. ILKO
REGISTERED
No. 10300059
STATE OF INDIANA
PROFESSIONAL ENGINEER
PRELIMINARY
NOT FOR CONSTRUCTION
[illegible]

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

SHEET 200

DIRECTORY PATH : R:\Active\Center Grove Community School Corporation\Black Box\Design\CAD\Plans
FILENAME : 200 TOPOGRAPHIC SURVEY & DEMOLITION PLAN.dwg
DATE/USER : 2/2/2023 9:00 AM / Dpeloso



EXISTING LEGEND

- LIGHT POLE
- STORM ROUND INLET
- TREE, BUSH & STUMP
- TEMP. BENCHMARK
- CLEANOUT
- TELEPHONE MANHOLE
- ELECTRIC MANHOLE
- 800 CONTOURS
- PAVEMENT LINE
- WATER LINE
- UNDERDRAIN LINE
- STORM SEWER W/ MANHOLE & END SECTION
- SANITARY SEWER W/ MANHOLE
- ASPHALT
- CONCRETE
- BUILDING
- REMOVAL/DEMOLISH
- WATER VALVE
- WATER BEND
- WATER VALVE
- WATER LINE PLUG
- WATER TEE

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.

10 0 10 20

SCALE: 1" = 10'

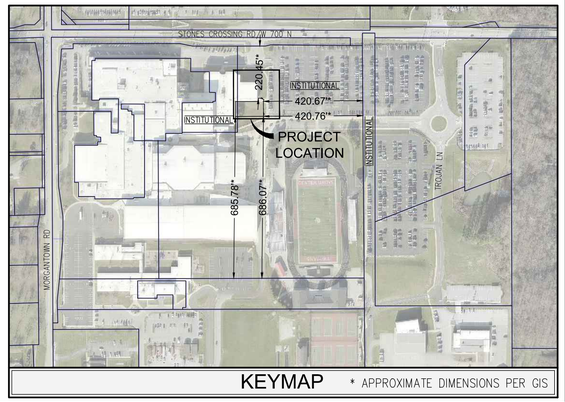
INDIANA 811 Know what's below. Call before you dig.

SITE DIMENSION NOTES

1. LIGHTING SHALL CONFORM TO JOHNSON COUNTY STANDARDS. CONTRACTOR SHALL COORDINATE WITH OWNER AND/OR JOHNSON COUNTY FOR ALL REQUIRED DETAILS AND SPECIFICATIONS.
2. CONTRACTOR SHALL NOTIFY ENGINEER, IF PROOF ROLL OF SUBGRADE FAILS, TO DETERMINE IF LIME STABILIZATION OF SUBGRADE IS NECESSARY.
3. SIGNAGE SHALL INCLUDE ALL NECESSARY HARDWARE AND FITTINGS, INCLUDING 10 FT. OF 11 GAUGE FLANGED CHANNEL SIGN POST.
4. REFER TO ARCHITECTURAL PLANS FOR ADDITIONAL SIGNAGE. VERIFY CONFLICTS WITH OWNER.
5. CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING WITH APPLICABLE UTILITY COMPANIES FOR ALL SERVICE DIS-CONNECTS.
6. CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING TRAFFIC AND PROVIDING ALL NECESSARY FLAGMAN, BARRELS, SIGNAGE, ETC. DURING CONSTRUCTION. ALL APPLICABLE M.U.T.C.D. STANDARDS SHALL GOVERN THIS WORK.
7. CONTRACTOR SHALL COORDINATE WITH APPLICABLE UTILITY COMPANIES AND BUILDING PLANS FOR WATER, CABLE, ELECTRIC, AND TELEPHONE CONNECTION SERVICE POINTS.
8. ALL FIELD TILES DISTURBED DURING CONSTRUCTION MUST BE REPAIRED/CONNECTED TO NEW DRAINAGE FACILITIES.
9. 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.

SITE DIMENSION LEGEND

- (A) MULCH SEEDING/LANDSCAPE AREAS
- (B) STRUCTURE FOUNDATION – PER BUILDING PLANS
- (D) 4" CONCRETE SIDEWALK (SEE DETAIL-SHEET 700)
- (F) CURB RAMP (SEE DETAILS – SHEETS 500 & 701)
- (J) SAWCUT
- (K) PAVEMENT REPAIR
  1.5" HMA SURFACE 9.5mm, ON
  VARIABLE DEPTH HMA BASE 25mm, ON
  12" FLOWABLE MORTAR (SEE DETAIL-SHEET 700)
- (S) STAIRCASE (SEE DETAIL– SHEET ###)
- PROPOSED WATER LINE
- PROPOSED SANITARY LATERAL
- DITCH LINE
- STORM SEWER W/MANHOLE & END SECTION
- STORM INLETS
- CLEANOUT
- WATER BENDS
- WATER VALVE
- WATER LINE PLUG
- WATER TEE
- (1) LINE, PAINTED, SOLID WHITE, 4"
- (2) LINE, PAINTED, SOLID BLUE, 4"
- (3) HANDICAP SYMBOL, PAINTED, SOLID BLUE, 4"



KEYMAP * APPROXIMATE DIMENSIONS PER GIS

DIRECTORY PATH : R:\Active\Center Grove Community School Corporation\Black Box\Design\CAD\Plans
FILENAME : 300 SITE DIMENSION PLAN.dwg
DATE/USER : 1/30/2023 2:04 PM / Dpeteso

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

SHEET 300

SITE DIMENSION PLAN

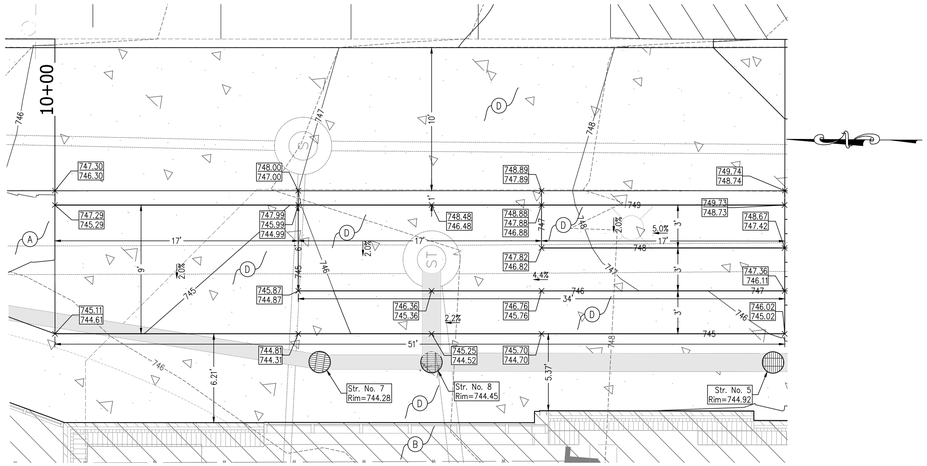
CG HIGH SCHOOL BLACK BOX THEATER

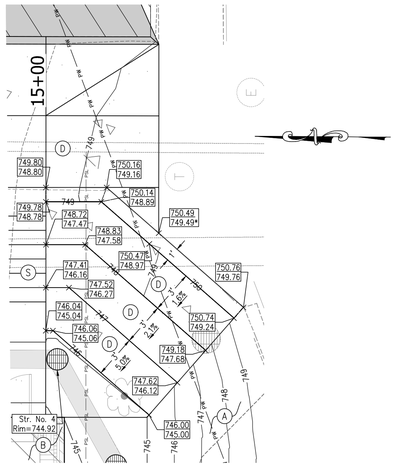
JOB No.	.	DRAWN	DEP	CHECKED	CJI	APPR.	CJI
DATE	FEBRUARY 07, 2023	DESIGNED	DJM				

GREGORY J. ILKO REGISTERED PROFESSIONAL ENGINEER 10300059 STATE OF INDIANA
PRELIMINARY PLANS NOT FOR CONSTRUCTION

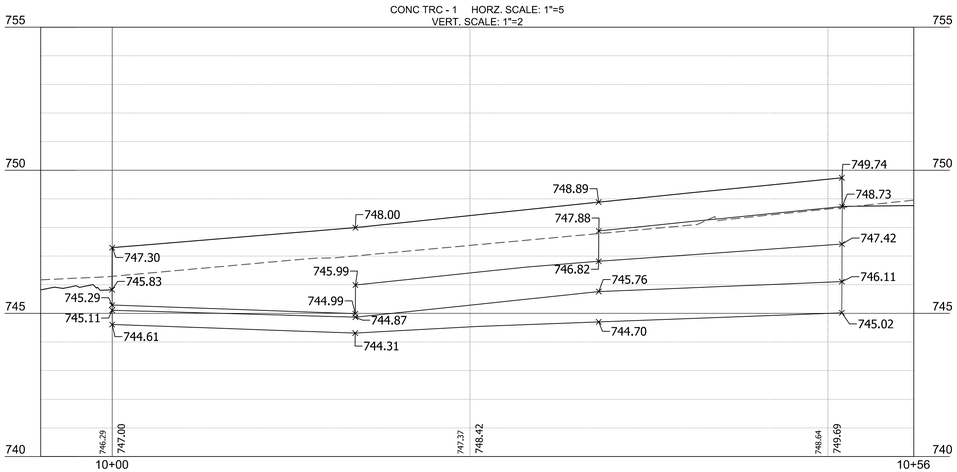
NO.	DATE	REVISIONS	BY	APPR.
1				
2				
3				
4				
5				
6				
7				
8				
9				

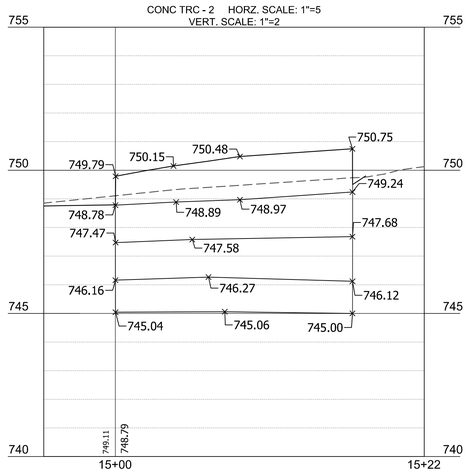
SHEET 300





SCALE: 1" = 5'





SITE DIMENSION LEGEND

- (A) MULCH SEEDING/LANDSCAPE AREAS
- (B) STRUCTURE FOUNDATION – PER BUILDING PLANS
- (D) 4" CONCRETE SIDEWALK (SEE DETAIL–SHEET 700)
- (J) SAWCUT
- (K) PAVEMENT REPAIR
  1.5" HMA SURFACE 9.5mm, ON
  VARIABLE DEPTH HMA BASE 25mm, ON
  12" FLOWABLE MORTAR (SEE DETAIL–SHEET 700)
- (S) STAIRCASE (SEE DETAIL– SHEET ###)
- PW PROPOSED WATER LINE
- PSL PROPOSED SANITARY LATERAL
- DITCH LINE
- STORM SEWER W/MANHOLE & END SECTION
- STORM INLETS
- CLEANOUT
- WATER BENDS
- WATER VALVE
- WATER LINE PLUG
- WATER TEE

CONCRETE TERRACE NOTES

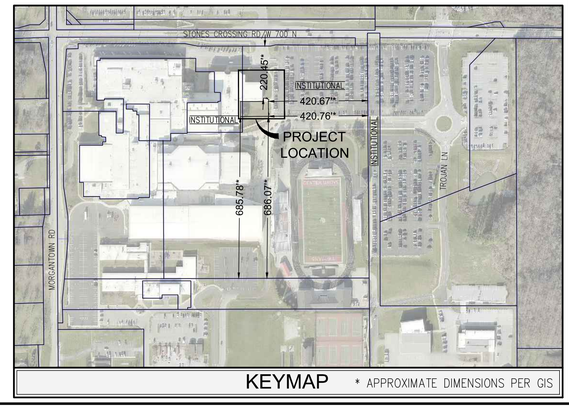
1. LIGHTING SHALL CONFORM TO JOHNSON COUNTY STANDARDS. CONTRACTOR SHALL COORDINATE WITH OWNER AND/OR JOHNSON COUNTY FOR ALL REQUIRED DETAILS AND SPECIFICATIONS.
2. CONTRACTOR SHALL NOTIFY ENGINEER, IF PROOF ROLL OF SUBGRADE FAILS, TO DETERMINE IF LIME STABILIZATION OF SUBGRADE IS NECESSARY.
3. SIGNAGE SHALL INCLUDE ALL NECESSARY HARDWARE AND FITTINGS, INCLUDING 10 FT. OF 11 GAUGE FLANGED CHANNEL SIGN POST.
4. REFER TO ARCHITECTURAL PLANS FOR ADDITIONAL SIGNAGE. VERIFY CONFLICTS WITH OWNER.
5. CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING WITH APPLICABLE UTILITY COMPANIES FOR ALL SERVICE DIS–CONNECTS.
6. CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING TRAFFIC AND PROVIDING ALL NECESSARY FLAGMAN, BARRELS, SIGNAGE, ETC. DURING CONSTRUCTION. ALL APPLICABLE M.U.T.C.D. STANDARDS SHALL GOVERN THIS WORK.
7. CONTRACTOR SHALL COORDINATE WITH APPLICABLE UTILITY COMPANIES AND BUILDING PLANS FOR WATER, CABLE, ELECTRIC, AND TELEPHONE CONNECTION SERVICE POINTS.
8. ALL FIELD TILES DISTURBED DURING CONSTRUCTION MUST BE REPAIRED/CONNECTED TO NEW DRAINAGE FACILITIES.
9. 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.
10. CONTRACTOR TO CONFIRM DOMESTIC WATER SERVICE AND METER SIZE WITH MEP PLANS PRIOR TO INSTALLATION.
11. CONTRACTOR TO CONFIRM SIZE OF ELECTRICAL CONDUIT WITH JOHNSON COUNTY REMC AND MEP PLANS. CONDUIT SHALL BE INSTALLED BENEATH PAVEMENT WITH SWEEPS AND PULL STRING AS NECESSARY PER JOHNSON COUNTY REMC REQUIREMENTS.
12. 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, HOWEVER, IN NO INSTANCE SHALL DRAINAGE TOWARDS THE BUILDING FOUNDATION BE ALLOWED.
13. ADDITIONAL EROSION CONTROL MEASURES MAY BE REQUIRED BY STATE, COUNTY, OR LOCAL OFFICIALS.
14. CONTRACTOR TO COORDINATE WITH JOHNSON COUNTY REMC FOR NECESSARY ELECTRIC SERVICE REQUIREMENTS AND SPECIFICATIONS, AND BUILDING PLANS FOR ALL UTILITY SERVICE POINT LOCATIONS. CONTRACTOR SHALL ALSO COORDINATE ALL REQUIRED CONDUIT RUNS, WIRING, AND TRANSFORMER PAD SPECIFICATIONS WITH JOHNSON COUNTY REMC.
15. CONTRACTOR TO COORDINATE WITH BARGERSVILLE WATER FOR FIRE SERVICE AND METER VAULT INSTALLATION AND SPECIFICATIONS.
16. WATER SERVICE INSTALLATION SHALL BE IN ACCORDANCE WITH BARGERSVILLE WATER STANDARDS AND SPECIFICATIONS. CONTRACTOR SHALL COORDINATE WITH BARGERSVILLE WATER FOR PERMITTING, CONNECTION AND TESTING PROCEDURES AND REQUIREMENTS.
17. CONTRACTOR SHALL MAINTAIN A MINIMUM OF 18" SEPARATION AT ALL PROPOSED WATER AND STORM SEWER/SANITARY SEWER CROSSINGS.
18. PRIVATE WATER MAINS AND FIRE HYDRANTS TO BE INSTALLED PER NFPA 24, PRIVATE FIRE SERVICE MAINS AND THEIR APPURTENANCES, AND BARGERSVILLE WATER SPECIFICATIONS.
19. CONTRACTOR TO PROVIDE ALL TRENCHING, BACKFILL, AND NECESSARY PAVING FOR THE INSTALLATION OF UNDERGROUND CONDUIT FOR ELECTRICAL, TELEPHONE, AND FIBER SERVICES TO THE BUILDING.
20. FIRE SUPPRESSION LINE SIZING TO BE CONFIRMED WITH MEP FIRE SUPPRESSION DESIGNER.
21. ALL GRAVITY SANITARY SEWER SHALL BE SDR–35 PVC.
22. ALL SANITARY LATERALS SHALL HAVE TRACER WIRE INSTALLED ON THE TOP OF PIPE FROM THE UPSTREAM CONNECTION TO THE DOWNSTREAM TERMINATION POINT.
23. CONTRACTOR SHALL ENSURE ANY PROPOSED PRIVATE FIRE HYDRANTS AND FDC ARE RED IN COLOR. ADDITIONALLY, THE BONNET SHALL BE PAINTED IN ACCORDANCE WITH NFPA STANDARD 291, WITH COLOR CODING BASED ON RATED FLOW CAPACITY, BLUE=1500 GPM OR MORE, GREEN=1000–1499 GPM, ORANGE=500–999 GPM, RED=499 GPM OR LESS.
24. PRIOR TO CONSTRUCTION IT SHOULD BE DETERMINED, BY THE MEP FIRE SUPPRESSION DESIGNER, IF THE PRIVATE FIRE MAIN WILL PROVIDE ENOUGH WATER TO MEET THE CALCULATED SPRINKLER SYSTEM DEMAND FOR THE PROPOSED STRUCTURE.
25. PRIVATE FIRE MAINS MUST BE VISUALLY INSPECTED AND APPROVED BY BARGERSVILLE FIRE PRIOR TO BACKFILL.
26. ALL UNDERGROUND FIRE PROTECTION PIPING MUST BE FLUSHED AND PRESSURE TESTED IN ACCORDANCE WITH NFPA 13/24, AND THE NFPA RECORD OF COMPLETION MUST BE RECEIVED BEFORE A CERTIFICATE OF OCCUPANCY WILL BE ISSUED.

EXISTING LEGEND

- LIGHT POLE
- STORM ROUND INLET
- TREE, BUSH & STUMP
- TEMP. BENCHMARK
- CLEANOUT
- TELEPHONE MANHOLE
- ELECTRIC MANHOLE
- WATER VALVE
- WATER BEND
- WATER VALVE
- WATER LINE PLUG
- WATER TEE
- 800 CONTOURS
- PAVEMENT LINE
- WATER LINE
- UNDERDRAIN LINE
- STORM SEWER W/ MANHOLE & END SECTION
- SANITARY SEWER W/ MANHOLE
- ASPHALT
- CONCRETE
- BUILDING
- REMOVAL/DEMOLISH

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.



KEYMAP * APPROXIMATE DIMENSIONS PER GIS

DIRECTORY PATH : R:\Admin\Carter Grove Community School Corporation\Black Box\Design\CAD\Plans
FILENAME : 301 CONCRETE TERRACE DETAILS.dwg
DATE/USER : 12/13/2022 2:30 PM / Dpdisso

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

SHEET 301

CONCRETE TERRACE DETAILS

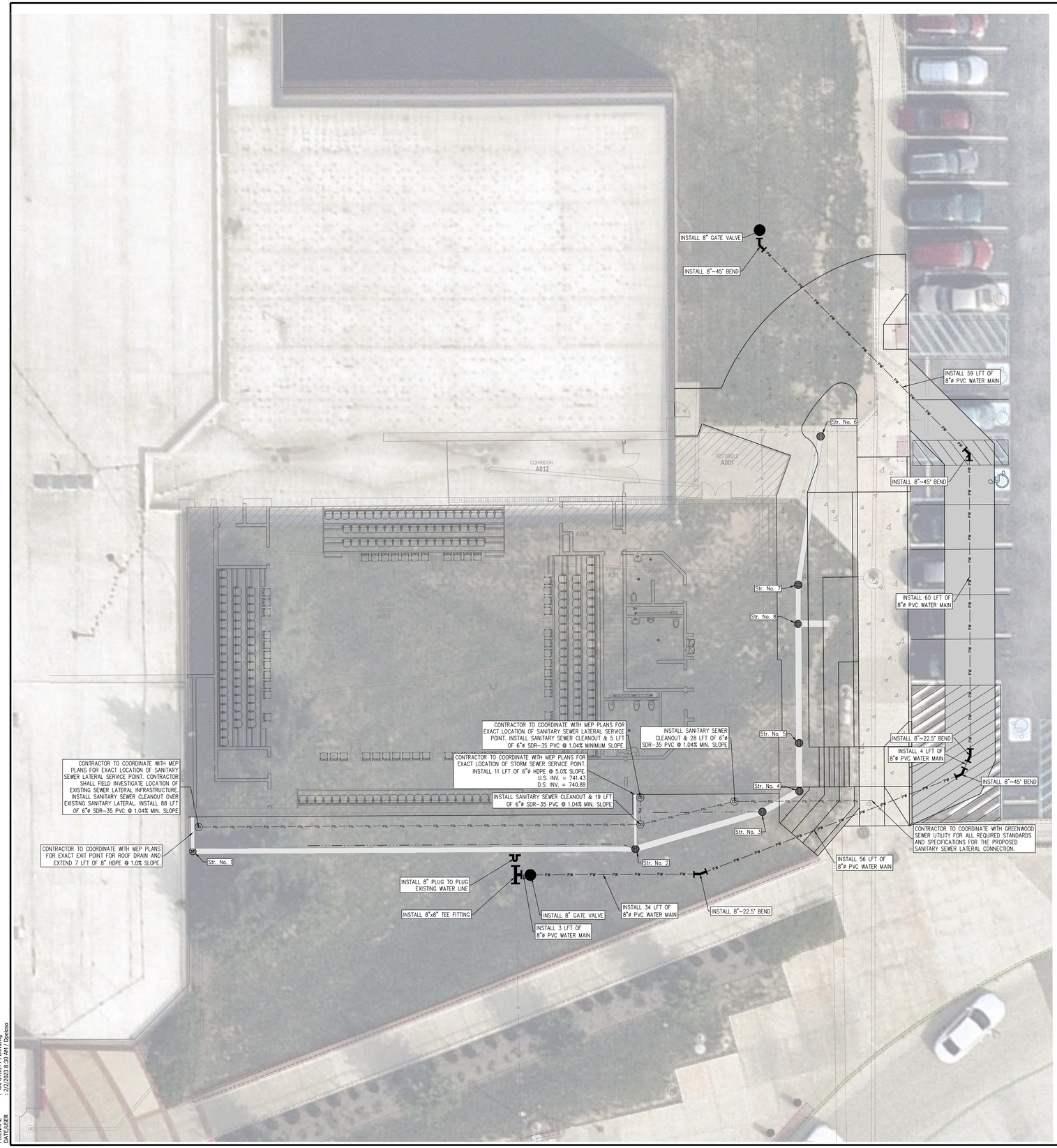
CG HIGH SCHOOL BLACK BOX THEATER

JOB No.	.	DRAWN	DEP	CHECKED	CJI	APPR.	CJI
DATE	FEBRUARY 07, 2023	DESIGNED	DJM				

PRELIMINARY NOT FOR CONSTRUCTION
GREGORY J. ILKO 10300059 REGISTERED PROFESSIONAL ENGINEER STATE OF INDIANA

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

SHEET 301



10 0 10 20

SCALE: 1" = 10'

PROPOSED LEGEND

- SANITARY SEWER LATERAL WITH CLEANOUT
- STORM SEWER W/MANHOLE & END SECTION
- WATER LINE
- STORM INLET
- WATER TEE
- 45° BEND
- 22.5° BEND
- 11.25° BEND

EXISTING LEGEND

- LIGHT POLE
- STORM ROUND INLET
- TREE, BUSH & STUMP
- TEMP. BENCHMARK
- CLEANOUT
- TELEPHONE MANHOLE
- ELECTRIC MANHOLE
- WATER VALVE
- WATER BEND
- WATER VALVE
- WATER LINE PLUG
- WATER TEE
- 800 CONTOURS
- PAVEMENT LINE
- WATER LINE
- UNDERDRAIN LINE
- STORM SEWER W/ MANHOLE & END SECTION
- SANITARY SEWER W/ MANHOLE
- ASPHALT
- CONCRETE
- BUILDING

UTILITIES NOTES

1. CONTRACTOR TO COORDINATE WITH JOHNSON COUNTY REMC FOR NECESSARY ELECTRIC SERVICE REQUIREMENTS AND SPECIFICATIONS, AND BUILDING PLANS FOR ALL UTILITY SERVICE POINT LOCATIONS. CONTRACTOR SHALL ALSO COORDINATE ALL REQUIRED CONDUIT RUNS, WIRING, AND TRANSFORMER PAD SPECIFICATIONS WITH JOHNSON COUNTY REMC.
2. CONTRACTOR TO COORDINATE WITH BARGERSVILLE WATER FOR FIRE SERVICE AND METER VAULT INSTALLATION AND SPECIFICATIONS.
3. WATER SERVICE INSTALLATION SHALL BE IN ACCORDANCE WITH BARGERSVILLE WATER STANDARDS AND SPECIFICATIONS. CONTRACTOR SHALL COORDINATE WITH BARGERSVILLE WATER FOR PERMITTING, CONNECTION AND TESTING PROCEDURES AND REQUIREMENTS.
4. CONTRACTOR SHALL MAINTAIN A MINIMUM OF 18" SEPARATION AT ALL PROPOSED WATER AND STORM SEWER/SANITARY SEWER CROSSINGS.
5. PRIVATE WATER MAINS AND FIRE HYDRANTS TO BE INSTALLED PER NFPA 24, PRIVATE FIRE SERVICE MAINS AND THEIR APPURTENANCES, AND BARGERSVILLE WATER SPECIFICATIONS.
6. CONTRACTOR TO PROVIDE ALL TRENCHING, BACKFILL, AND NECESSARY PAVING FOR THE INSTALLATION OF UNDERGROUND CONDUIT FOR ELECTRICAL, TELEPHONE, AND FIBER SERVICES TO THE BUILDING.
7. FIRE SUPPRESSION LINE SIZING TO BE CONFIRMED WITH MEP FIRE SUPPRESSION DESIGNER.
8. ALL GRAVITY SANITARY SEWER SHALL BE SDR-35 PVC.
9. ALL SANITARY LATERALS SHALL HAVE TRACER WIRE INSTALLED ON THE TOP OF PIPE FROM THE UPSTREAM CONNECTION TO THE DOWNSTREAM TERMINATION POINT.
10. CONTRACTOR SHALL ENSURE ANY PROPOSED PRIVATE FIRE HYDRANTS AND FDC ARE RED IN COLOR. ADDITIONALLY, THE BONNET SHALL BE PAINTED IN ACCORDANCE WITH NFPA STANDARD 291, WITH COLOR CODING BASED ON RATED FLOW CAPACITY, BLUE=1500 GPM OR MORE, GREEN=1000~1499 GPM, ORANGE=500~999 GPM, RED=499 GPM OR LESS.
11. PRIOR TO CONSTRUCTION IT SHOULD BE DETERMINED, BY THE MEP FIRE SUPPRESSION DESIGNER, IF THE PRIVATE FIRE MAIN WILL PROVIDE ENOUGH WATER TO MEET THE CALCULATED SPRINKLER SYSTEM DEMAND FOR THE PROPOSED STRUCTURE.
12. PRIVATE FIRE MAINS MUST BE VISUALLY INSPECTED AND APPROVED BY BARGERSVILLE FIRE PRIOR TO BACKFILL.
13. ALL UNDERGROUND FIRE PROTECTION PIPING MUST BE FLUSHED AND PRESSURE TESTED IN ACCORDANCE WITH NFPA 13/24, AND THE NFPA RECORD OF COMPLETION MUST BE RECEIVED BEFORE A CERTIFICATE OF OCCUPANCY WILL BE ISSUED.
14. CONTRACTOR TO CONFIRM DOMESTIC WATER SERVICE AND METER SIZE WITH MEP PLANS PRIOR TO INSTALLATION.
15. CONTRACTOR TO CONFIRM SIZE OF ELECTRICAL CONDUIT WITH JOHNSON COUNTY REMC AND MEP PLANS. CONDUIT SHALL BE INSTALLED BENEATH PAVEMENT WITH SWEEPS AND PULL STRING AS NECESSARY PER JOHNSON COUNTY REMC REQUIREMENTS
16. CONTRACTOR SHALL COORDINATE WITH APPLICABLE UTILITY COMPANIES AND BUILDING PLANS FOR WATER, CABLE, ELECTRIC, AND TELEPHONE CONNECTION SERVICE POINTS.
17. ALL FIELD TILES DISTURBED DURING CONSTRUCTION MUST BE REPAIRED/CONNECTED TO NEW DRAINAGE FACILITIES.
18. 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.
19. CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING WITH APPLICABLE UTILITY COMPANIES FOR ALL SERVICE DIS-CONNECTS.
20. 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.
21. CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING WITH APPLICABLE UTILITY COMPANIES FOR ALL SERVICE DIS-CONNECTS.

STORM SEWER STRUCTURE TABLE	STORM SEWER STRUCTURE TABLE
STR. DATA	STR. DATA
STR. NO. 1 INSTALL 15" NYLOPLAST DRAIN BASIN WITH SOLID GRATE AND 89 LFT OF 12"ø HDPE @ 0.76% RIM=755.78 INV IN (8"~N)=740.19 INV OUT (12"~E)=740.19	**STR. NO. 5** INSTALL 18" NYLOPLAST DRAIN BASIN WITH PEDESTRIAN GRATE AND 24 LFT OF 15"ø HDPE @ 0.76% RIM=744.92 INV IN (15"~S)=739.18 INV OUT (15"~N)=739.18
STR. NO. 2 INSTALL 18" NYLOPLAST DRAIN BASIN WITH DOME GRATE AND 26 LFT OF 15"ø HDPE @ 0.76% RIM=749.50 INV IN (12"~W)=739.51 INV IN (6"~N)=740.88 INV OUT (15"~E)=739.51	**STR. NO. 6** INSTALL 18" NYLOPLAST DRAIN BASIN WITH DOME GRATE AND 30 LFT OF 12"ø HDPE @ 1.00% RIM=744.60 INV OUT (12"~S)=739.75
STR. NO. 3 INSTALL 18" NYLOPLAST DRAIN BASIN WITH DOME GRATE AND 8 LFT OF 15"ø HDPE @ 0.76% RIM=744.25 INV IN (15"~W)=739.32 INV OUT (15"~NE)=739.32	**STR. NO. 7** INSTALL 18" NYLOPLAST DRAIN BASIN WITH PEDESTRIAN GRATE AND 8 LFT OF 12"ø HDPE @ 1.63% RIM=744.28 INV IN (12"~N)=739.45 INV OUT (12"~S)=739.35
STR. NO. 4 INSTALL 18" NYLOPLAST DRAIN BASIN WITH PEDESTRIAN GRATE AND 10 LFT OF 15"ø HDPE @ 0.76% RIM=744.92 INV IN (15"~SW)=739.26 INV OUT (15"~N)=739.26	**STR. NO. 8** INSTALL 18" NYLOPLAST DRAIN BASIN WITH PEDESTRIAN GRATE AND 7 LFT OF 15"ø HDPE @ 1.25% RIM=744.45 INV IN (12"~N)=739.22 INV IN (15"~S)=739.00 INV OUT (15"~E)=739.00 D.S. INV. = 738.92

DIRECTORY PATH : R:\Active\Carter Grove Community School Corporation\Black Box\Design\CAD\Plans
FILENAME : 400 UTILITY PLAN.dwg
DATE/USER : 2/22/2023 8:39 AM / Dpeloso

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

UTILITY PLAN

CG HIGH SCHOOL BLACK BOX THEATER

JOB No.	.	DRAWN	DEP	CHECKED	CJI	APPR.	CJI
DATE	FEBRUARY 07, 2023	DESIGNED	DJM				

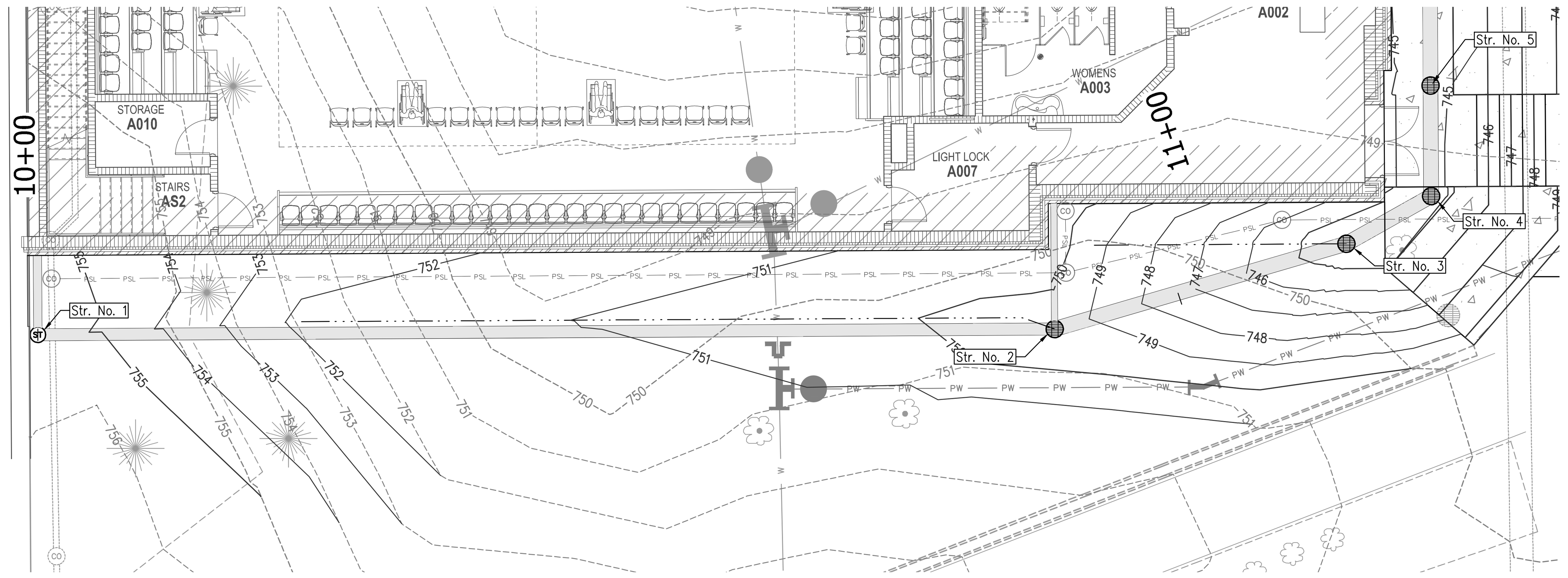
SHEET 400

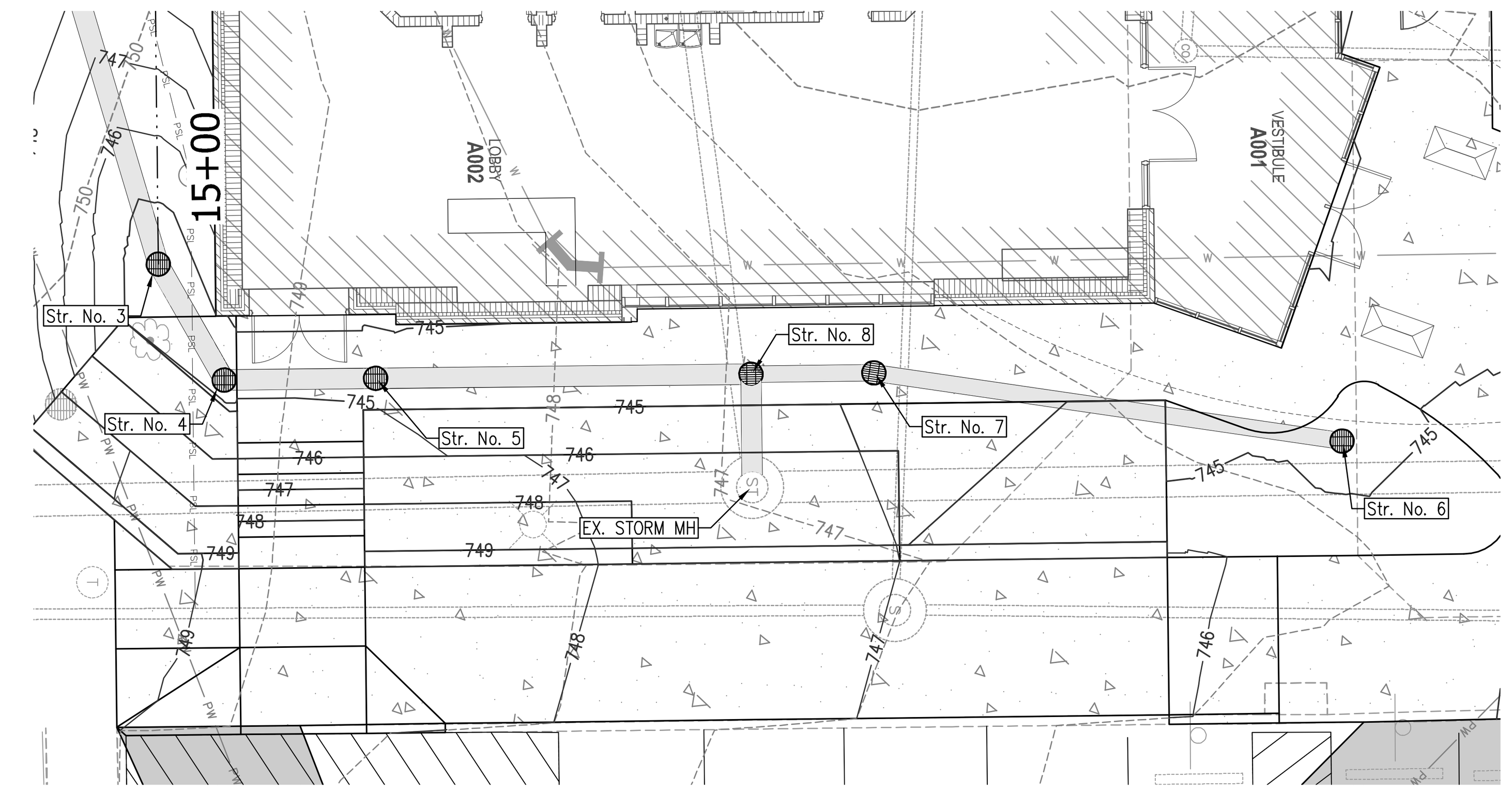
GREGORY J. ILKO — REGISTERED PROFESSIONAL ENGINEER — 10300059 — STATE OF INDIANA
PRELIMINARY PLANS NOT FOR CONSTRUCTION

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

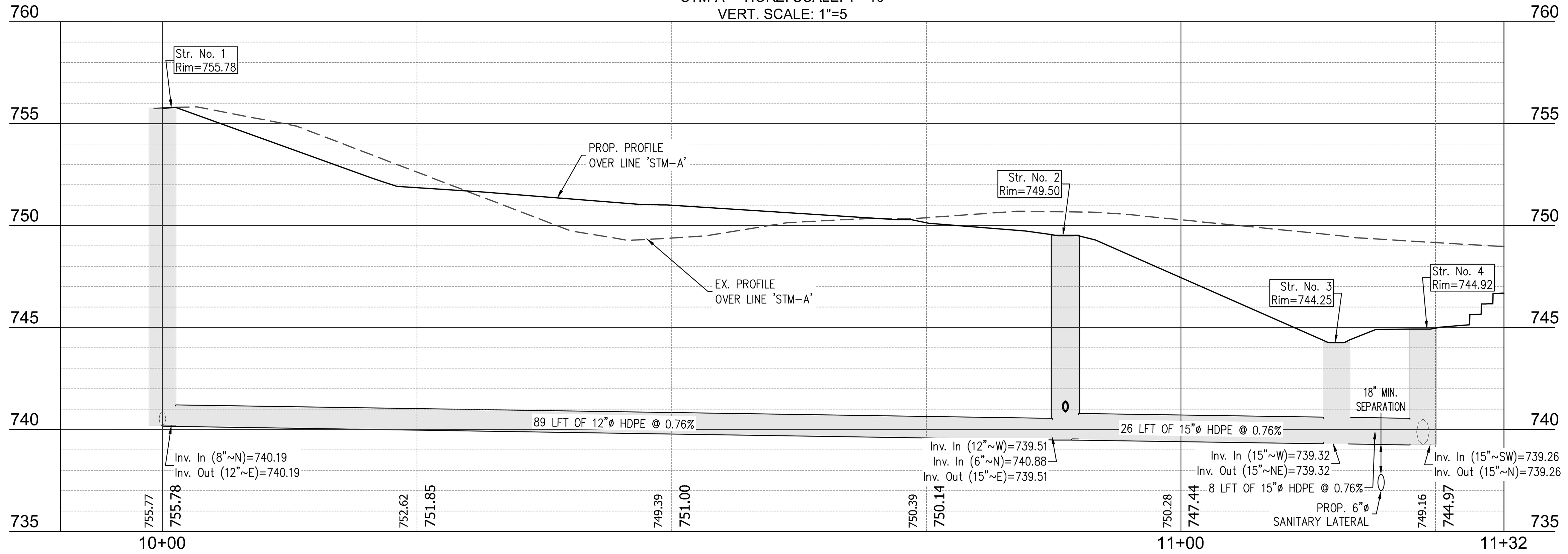
INDIANA 811 — Know what's below. Call before you dig.

SHEET 400

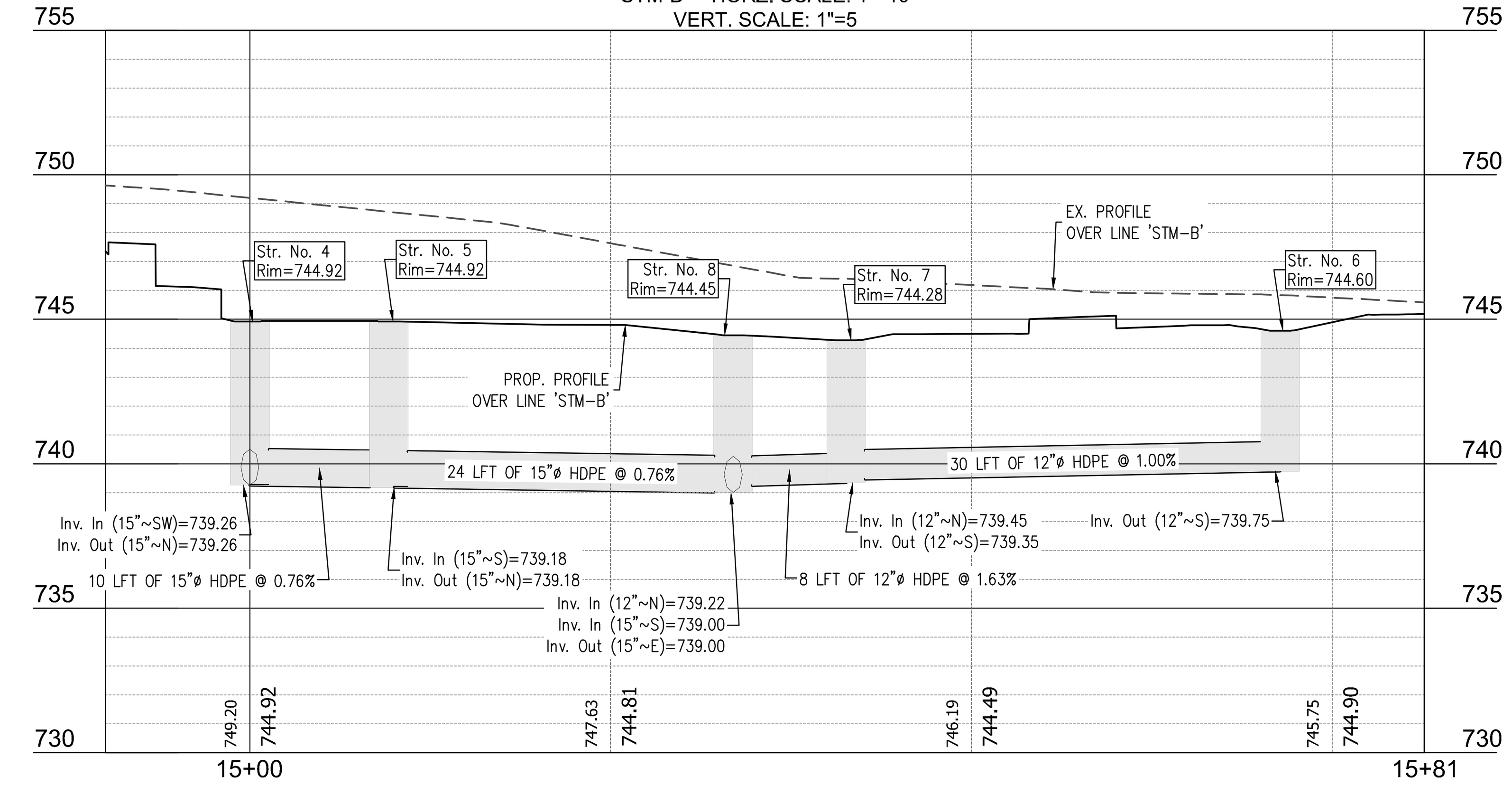


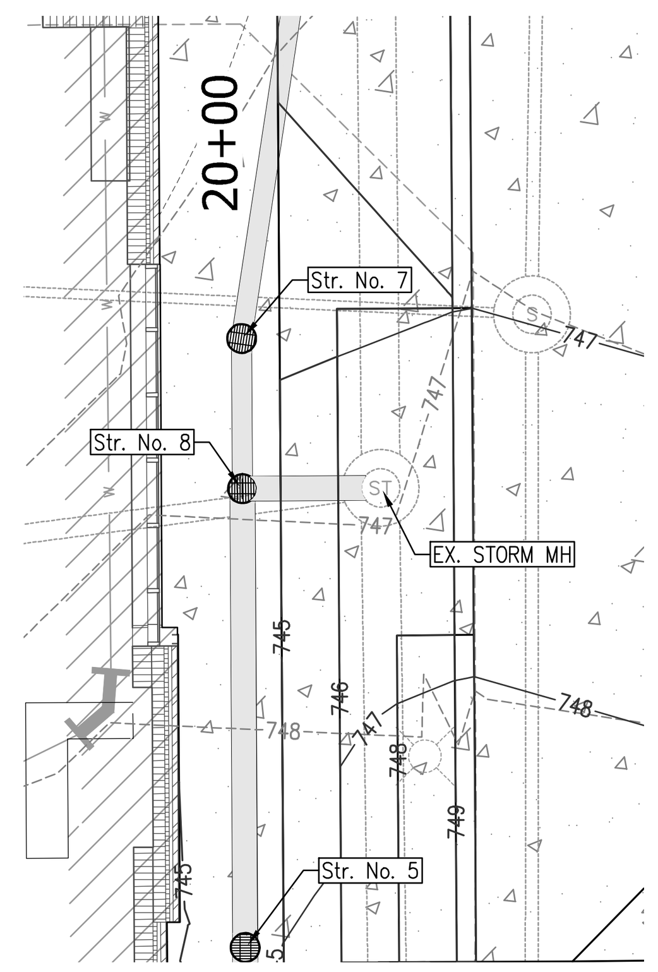


STM-A HORZ. SCALE: 1"=10
VERT. SCALE: 1"=5

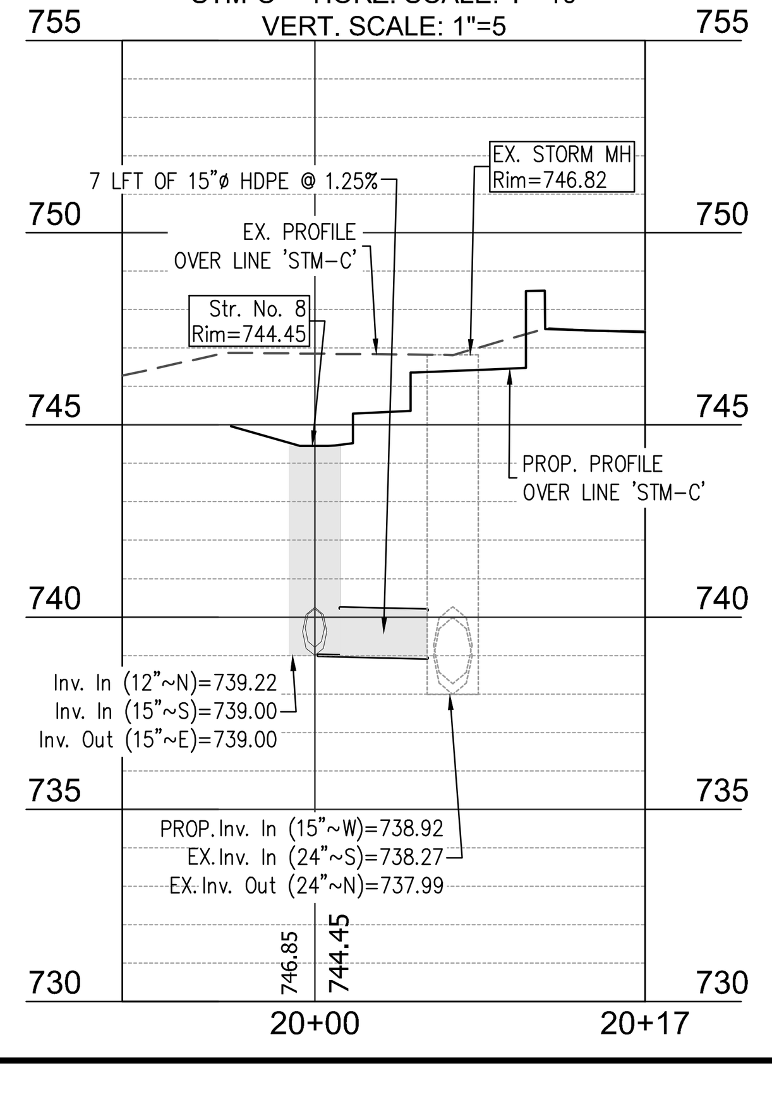


STM-B HORZ. SCALE: 1"=10
VERT. SCALE: 1"=5





STM-C HORZ. SCALE: 1"=10
VERT. SCALE: 1"=5



PROPOSED LEGEND

—PSL—PSL—PSL—PSL—	SANITARY SEWER LATERAL WITH CLEANOUT
	STORM SEWER W/MANHOLE & END SECTION
—PW—PW—PW—	WATER LINE
●	STORM INLET
	WATER TEE
	45° BEND
	22.5° BEND
	11.25° BEND

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

DIRECTORY PATH : R:\Active\Center Grove Community School Corporation\Black Box\Design\CAD\Plans
FILENAME : 401 STORM PLAN & PROFILE.dwg
DATE/USER : 2/2/2023 8:29 AM / Dpeloso

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

SHEET 401

STORM PLAN & PROFILE

CG HIGH SCHOOL BLACK BOX THEATER

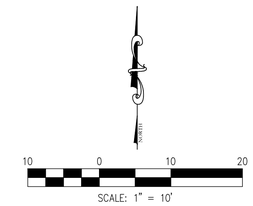
JOB No.	.	DRAWN	DEP	CHECKED	GJI
DATE	FEBRUARY 07, 2023	DESIGNED	DJM	APPR.	GJI

GREGORY J. ILKO
REGISTERED
No. 10300059
STATE OF INDIANA
PROFESSIONAL ENGINEER
PRELIMINARY
NOT FOR
CONSTRUCTION
[illegible]

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

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

SHEET 401



GRADING LEGEND

860.00 TOP OF CURB 859.50 EDGE OF PAVEMENT	PROPOSED ELEVATIONS
860.00 FINISH GRADE	
860.00 * 859.50 *	EXISTING ELEVATIONS (TO BE FIELD VERIFIED)
860.00 *	
FFE = XXX.XX	PROPOSED FINISH FLOOR ELEVATION
800	EXISTING CONTOURS
800	PROPOSED CONTOURS

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, HOWEVER, IN NO INSTANCE SHALL DRAINAGE TOWARDS THE BUILDING FOUNDATION BE ALLOWED.

BENCHMARK INFORMATION

BM #1
ORIGINATING BENCHMARK

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

VERT ORDER – FIRST CLASS II

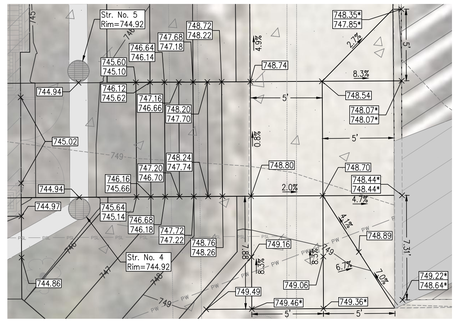
DESCRIBED BY COAST AND GEODETIC SURVEY 1946
1.2 MI N FROM WAVERLY.
IN JOHNSON COUNTY, 1.2 MILES NORTH ALONG STATE HIGHWAY 37 FROM THE INTERSECTION OF STATE HIGHWAY 144 AT WAVERLY, MORGAN COUNTY, 125 YARDS NORTH OF THE MORGAN–JOHNSON COUNTY LINE, 26 FEET WEST OF THE CENTERLINE OF THE HIGHWAY, IN LINE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

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

ELEV. = 685.94 (NAVD 88)

TBM #423
"CUT BOX" ON NORTH SIDE OF FARTHEST WEST LIGHT POLE BASE ON SOUTH SIDE OF ROAD EAST OF SITE.

ELEV. = 749.32



RAMP & STAIRS GRADING DETAIL A
SCALE: 1"=5'

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

SHEET 500

GRADING PLAN

CG HIGH SCHOOL BLACK BOX THEATER

JOB No.	.	DRAWN	DEP	CHECKED	CJI	APPR.	CJI
DATE	FEBRUARY 07, 2023	DESIGNED	DJM				

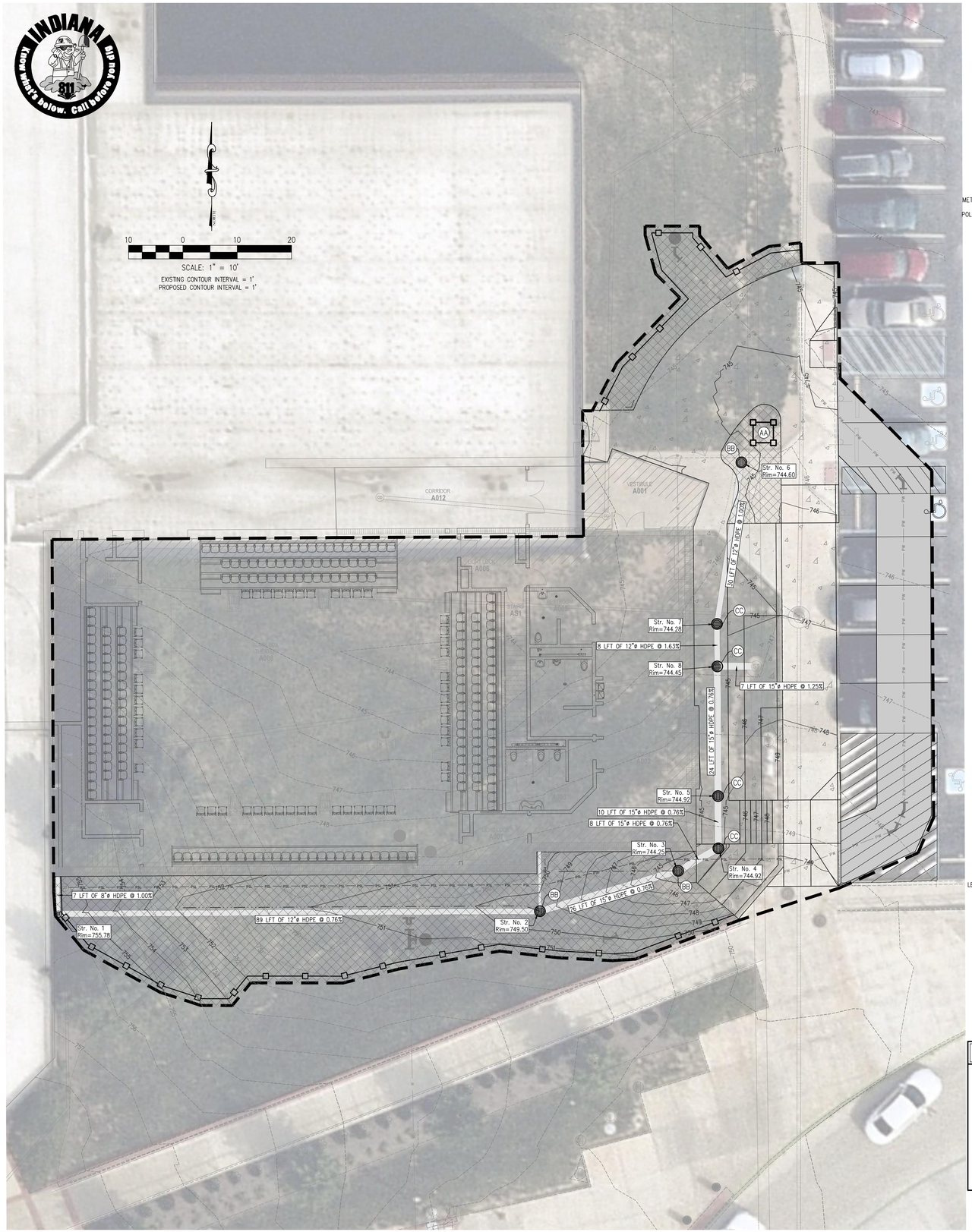
PRELIMINARY NOT FOR CONSTRUCTION
GREGORY J. ILKO 10300059 REGISTERED PROFESSIONAL ENGINEER STATE OF INDIANA

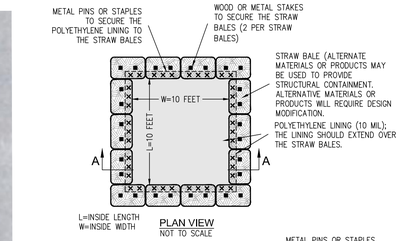
NO.	DATE	REVISIONS	BY	APPR.
1				
2				
3				
4				
5				
6				
7				
8				
9				

SHEET 500

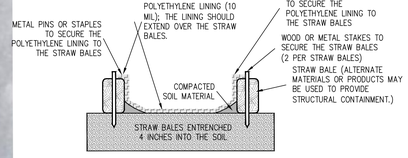
Know what's below. Call before you dig. INDIANA 811

DIRECTORY PATH : R:\Active\Center Grove Community School Corporation\Black Box\Design\CAD\Plans
FILENAME : 500 GRADING PLAN.dwg
DATE/USER : 1/31/2023 9:24 AM / Dpeloso





PLAN VIEW
NOT TO SCALE



SECTION A-A
NOT TO SCALE

CONCRETE WASHOUT DETAIL (AA)
NOT TO SCALE

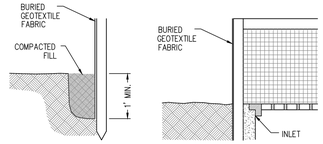
ADDITIONAL EROSION CONTROL MEASURES MAY BE REQUIRED BY STATE, CITY OR COUNTY OFFICIALS

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

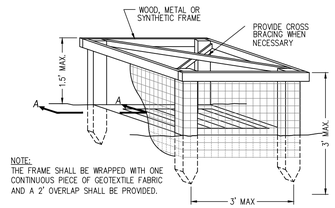
ADDITIONAL EROSION CONTROL MEASURES MAY BE REQUIRED BY STATE OR COUNTY OFFICIALS

EROSION CONTROL NOTES

1. THERE SHALL BE NO DIRT, DEBRIS, OR STORAGE OF MATERIALS IN THE PARKING LOT.
2. ALL STORM WATER CASTINGS SHALL BE PHASE II COMPLIANT.
3. STAGING AREA TO INCLUDE NOI POSTING, PORT-O-LETS, TRASH CONTAINER, AND FUELING TANKS. CONTRACTOR TO SELECT SUITABLE LOCATION FOR STAGING AREA.
4. ALL PORT-O-LETS MUST BE ANCHORED DOWN TO PREVENT SPILLS.
5. 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.
6. CONTRACTOR SHALL BE REQUIRED TO REPAIR ALL ASPHALT PAVEMENT THAT BECOMES DETERIORATED DUE TO CONSTRUCTION ACTIVITIES.
7. ALL EROSION CONTROL MEASURES SHALL BE IN ACCORDANCE WITH THE CURRENT INDIANA STORM WATER QUALITY MANUAL – PLANNING AND SPECIFICATION GUIDE FOR EFFECTIVE EROSION CONTROL AND POST-CONSTRUCTION WATER QUALITY (THE IDEM INDIANA WATER QUALITY MANUAL, LATEST EDITION.)
8. SEDIMENT AND EROSION CONTROL MEASURES MUST BE APPROVED BY COUNTY OR LOCAL JURISDICTIONAL AGENCY PRIOR TO THE START OF CONSTRUCTION.
9. SILT FENCE MATERIAL SHALL BE NWSF-6 NON-WOVEN FABRIC OR AN APPROVED EQUAL.
10. CONTRACTOR/PERMIT HOLDER WILL SCHEDULE AN ON-SITE PRE-CONSTRUCTION MEETING WITH THE JOHNSON COUNTY MS4 COMPLIANCE AND ENFORCEMENT INSPECTOR.
11. PRIOR TO ANY DEWATERING ACTIVITIES, CONTRACTOR/PERMIT HOLDER SHALL MEET WITH THE JOHNSON COUNTY MS4 COMPLIANCE AND ENFORCEMENT INSPECTOR.
12. IF ANY EXPORT OF SOILS MATERIALS SHALL OCCUR, A MODIFICATION OF THE SWPPP IS REQUIRED.
13. ALL SITES MUST PLACE A CONTRACTOR'S/PERMIT HOLDER'S DISPLAY BOARD WHERE THE CONSTRUCTION STORMWATER GENERAL PERMIT (CSGP) AND SWPPP PERMIT MUST BE DISPLAYED. IF PLACEMENT OF DISPLAY BOARD IS WAIVED FOR AN INDIVIDUAL RESIDENTIAL LOT, NOI AND SWPPP PERMITS MUST BE DISPLAYED ON THE STRUCTURE (DOOR, WINDOW, ETC.)
14. STATE AND COUNTY OFFICIALS CAN REQUIRE ADDITIONAL EROSION CONTROL MEASURES IN THE FIELD AS SITE CONDITIONS WARRANT.
15. STATE AND COUNTY OFFICIALS MAY ENTER A CONSTRUCTION SITE FOR AN EXAMINATION OF THE SWPPP LOG TO ENSURE EROSION CONTROL MEASURE ARE BEING ADEQUATELY MAINTAINED AFTER RAINFALL EVENTS.
16. CONCRETE WASTE WATER SHALL BE DISCHARGED INTO AN APPROVED ON-SITE CONTAINMENT UNIT. SUCH WASTE WATER SHALL BE RETAINED ON-SITE UNTIL WASTE WATER HAS SOLIDIFIED (24-48 HOURS).
17. POST-CONSTRUCTION PAVEMENT INLET PROTECTION SHALL BE INSTALLED PRIOR TO THE COMPLETION AND FINAL INSPECTION/APPROVAL OF ANY PROJECT.
18. IF CONNECTING TO AN EXISTING STORM SEWER STRUCTURE, THE STRUCTURE MUST BE CORE DRILLED.
19. TOTAL DISTURBED ACREAGE FOR THIS PROJECT IS APPROXIMATELY 0.331 AC.

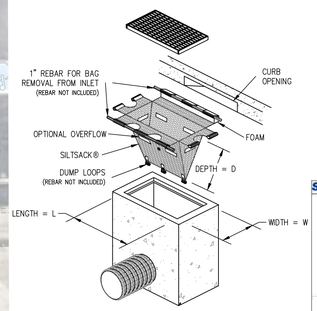


TRENCH DETAIL SECTION A-A



NOTE:
THE FRAME SHALL BE WRAPPED WITH ONE CONTINUOUS PIECE OF GEOTEXTILE FABRIC AND A 2' OVERLAP SHALL BE PROVIDED.

FABRIC DROP INLET PROTECTION DETAIL (BB)
NOT TO SCALE



SILTSACK INLET FILTER DETAIL (CC)
NOT TO SCALE

EROSION CONTROL LEGEND

- MULCHED SEEDING
- EROSION CONTROL BLANKET (NORTH AMERICAN GREEN SC-150 OR EQUAL) AND MULCHED SEEDING
- SILT FENCE SLOPE CHECK (NWSF-6 NON WOVEN FABRIC OR APPROVED EQUAL)
- CONSTRUCTION LIMITS
- (AA) CONCRETE WASHOUT AREA (SEE DETAIL-THIS SHEET)
- (BB) FABRIC DROP INLET PROTECTION (SEE DETAIL-THIS SHEET)
- (CC) SILT SACK INLET FILTER (SEE DETAIL-THIS SHEET)

Staging Area TC

Purpose
To provide a stabilized staging area for contractor parking, equipment, and material storage so contractors and other workers do not need to pull on to disturbed areas and contribute to tracking.

Applications & Limitations
Suitable applications:
- Applicable to all sites

Materials
Acceptable materials:
- Stone
- Existing pavement

Installation
- Install adjacent to and connect to construction entrance.
- Must be sized appropriately for construction activity.

Inspection/Maintenance
- Repair as necessary to provide stabilized area for contractor parking and material staging.

Categories		
EC	Erosion Control	
SC	Sediment Control	x
TC	Tracking Control	✓
WE	Wind Erosion Control	
NS	Non-Stormwater Management Control	
WM	Waste Management & Materials Pollution Control	x

Legend:
✓ Primary Objective
x Secondary Objective

Targeted Pollutants	
Sediment	✓
Nutrients	
Trash	✓
Metals	
Bacteria	
Oil and Grease	
Organics	✓

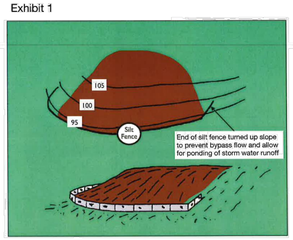
Potential Alternatives
None

WHITE RIVER ALLIANCE

1 of 1 13

SILT FENCE

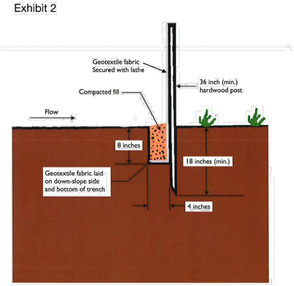
Exhibit 1



Source: Adapted from Commonwealth of Pennsylvania Erosion and Sediment Pollution Control Manual, 1990

SILT FENCE

Exhibit 2



Silt Fence must be NWSF-6 NON-Woven Fabric. OR An approved equal.

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

EROSION CONTROL PLAN

CG HIGH SCHOOL BLACK BOX THEATER

JOB No.	.	DRAWN	DEP	CHECKED	CJI	APPR.	CJI	SHEET	600
DATE	FEBRUARY 07, 2023	DESIGNED	DJM						

GREGORY J. ILKO PRELIMINARY NOT FOR CONSTRUCTION 10300059 REGISTERED PROFESSIONAL ENGINEER STATE OF INDIANA

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

SHEET 600

DIRECTORY PATH : R:\Active\Center Grove Community School Corporation\Black Box\Design\CAD\Plans
FILENAME : 600 EROSION CONTROL PLAN.dwg
DATE/USER : 1/31/2023 9:38 AM / Dpeloso

EROSION CONTROL PLAN INDEX

PLAN ELEMENTS

A1

RULE 5 EROSION CONTROL PLAN INDEX

ELEMENT	SHEET	ELEMENT	SHEET	ELEMENT	SHEET	ELEMENT	SHEET
A4	601	A19	300	B4	300 & 601	B12	300 & 601
A5	601	A21	300	B5	300 & 601	B13	601
A6	300	A22	300	B6	300 & 601	B14	601
A15	300	A23	300	B7	300 & 601		
A16	300	B2	601	B10	300 & 601		
A18	601	B3	601	B11	300 & 601		

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 a building addition for a theater. The project is located along the east side of the existing Center Grove High School building, directly north of the Hall of Champions entrance. More specifically, the addition will be built approximately 315' south of Stones Crossing Road & approximately 875' east of the Stones Crossing Road and Morgantown Road intersection. Curbs, restoration of parking area and walks necessary for the development shall be constructed as part of the construction plans herein. A storm sewer system shall be utilized for stormwater collection. Drainage will discharge into an existing storm sewer located adjacent to the project site. Water, sanitary, telephone, cable, gas, and electric utilities shall serve the building as well. Construction is anticipated to begin in 2023.

A4 LATITUDE & LONGITUDE
Latitude N 39°34'35" Longitude W 86°11'38"

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 Managment 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 labeled on the Erosion Control Plan.

A9 DESCRIPTION OF TOTAL MAXIMUM DAILY LOAD (TMDL) REPORT
Project does not fall within a watershed for which there is a TMDL.

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

A11 DESCRIPTION OF 303(d) LIST
Project does not fall within a watershed for which there is a 303(d) impaired waterway.

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 covered with a few trees.

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

A17 EXISTING RUN-OFF ENTRANCE AREA
The site collects existing runoff from all directions and is conveyed to an existing storm inlet centrally located within the project area.

A18 EXISTING RUN-OFF DISCHARGE AREA
Existing runoff is collected by a storm inlet and is conveyed to a storm sewer. The existing storm sewer carries the runoff north, where it is ultimately discharged to Honey Creek.

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

A20 EXISTING RETENTION/DETENTION FACILITIES
There are no existing detention facilities within the project site.

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

A22 TOTAL PROJECT AREA
The project area is ±0.40 acres.

A23 EXPECTED DISTURBED AREA
The expected project land disturbance is ±0.33 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
The proposed runoff shall be collected and conveyed to the same existing storm sewer system that collected the existing runoff.

A28 SITE IMPROVEMENTS
All improvements are shown on the Erosion Control Plan, no offsite construction activities shall occur.

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.

A30 CONSTRUCTION SUPPORT ACTIVITIES
There are no anticipated support activities for this project.

A31 IN-STREAM ACTIVITIES
There are no in-stream activities proposed for this project.

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 utilize the existing parking lot off of Stones Crossing Road. The contractor shall be responsible for maintaining the parking lot by performing street sweeping activities on a daily basis. Additionally, the contractor shall be required to repair all asphalt pavement that becomes deteriorated due to the construction activities.

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
There are no outlet protection measures needed for this project.

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
There are no construction activities within waterbodies for this project.

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

B12 PLANNED CONSTRUCTION GUIDELINES
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 theater.

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
Bargersville Fire Department (317) 422-5187
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.

DIRECTORY PATH : R:\Active\Center Grove Community School Corporation\Black Box\Design\CAD\Plans
FILENAME : 601 EROSION CONTROL NOTES.dwg
DATE/USER : 12/8/2022 8:19 AM / Djmyers

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, fertilizers, pesticides, and herbicides for the maintenance of grassed areas and plantings, as well as, sediment from various sources.

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

C3 PROPOSED POST CONSTRUCTION STORMWATER QUALITY MEASURES
Sumps, located within the proposed storm sewer structures, shall capture trash, debris, and sediment, prior to the runoff being conveyed into the existing storm sewer network.

C4 LOCATION, DIMENSIONS, SPECIFICATIONS AND DETAILS OF EACH STORMWATER QUALITY MEASURE
The location of the proposed storm sewer inlets are shown on the Erosion Control Plan.

C5 MAINTENANCE GUIDELINES OF POST CONSTRUCTION STORMWATER QUALITY MEASURES
The proposed storm sewer inlets shall be inspected after each rain event for any plugging of the storm sewers. The piping and castings shall be cleared of any obstructions. The sediment collected within the sumps, shall be removed and disposed of on a quarterly basis, or more frequently if needed.

C6 PARTY RESPONSIBLE FOR STORMWATER POLLUTION PREVENTION
The responsible individual is not known at this time.

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.

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.

CONCRETE WASHOUT:
A. Concrete washout area shall be installed prior to any concrete placement on site.
B. Signs shall be placed at the construction entrance, at the washout area, and elsewhere as necessary to clearly indicate the location of the concrete washout area to operators of concrete trucks and pump rigs.
C. The concrete washout area shall be repaired and enlarged or cleaned out as necessary to maintain capacity for wasted concrete.
D. At the end of construction, all concrete shall be removed from the site and disposed of at an approved waste site.
E. When the concrete washout area is removed, the disturbed area shall be seeded and mulched or otherwise stabilized in a manner approved by the inspector.

CONSTRUCTION SEQUENCE & SCHEDULE OF EROSION CONTROL IMPLEMENTATION

1. Schedule a Rule 5 pre-construction meeting with the Johnson County MS4 coordinator at least 48 hours prior to start of any construction activity.
2. Install silt fence and storm sewer inlet protection around existing structures and in ditches as shown in these plans before any land disturbing activities are started.
4. Strip topsoil and stockpile as shown.
5. Rough grade site. Disturbed areas should be seeded immediately following rough grading. Areas that will not be disturbed again should be permanently seeded. No unvegetated areas should be exposed for more than seven days.
6. Place drainage structures. Erosion control measures shall be placed around proposed structures as soon as they are in place and until vegetation is secure.
7. Construct building, sidewalks, and other site improvements. Remove concrete washout area upon completion of concrete items.
8. Final grade site and install all permanent surface stabilization features including seeding, erosion control blankets, sod, and plantings. All erosion control blankets shall be installed per manufacturers recommendations as soon as final grading is complete.
9. Final paving operations.

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

1. All Erosion Control practices shall be in accordance with the latest edition of the INDIANA STORM WATER QUALITY MANUAL.

2. The Erosion Control measures included in this plan shall be installed prior to initial land disturbance activities or as soon as practical. Sediment shall be prevented from discharging from the project site by installing and maintaining silt fence, straw bales, sediment basins, etc. As shown on this plan. If shown on this plan, energy-dissipation devices or Erosion Control at the outfall of the storm sewer system shall be installed at the time of the construction of the outfall.

3. All on-site storm drain inlets shall be protected against sedimentation with silt sack inlet filters, filter fabric, or equivalent barriers as shown on this plan.

4. Except as prevented by inclement weather conditions or other circumstances beyond the control of the contractor/developer appropriate Erosion Control practices will be initiated within (7) seven days of the last land disturbing activity at the site. The site shall be stabilized by seeding, sodding, mulching, covering, or by other equivalent Erosion Control measures.

5. This Erosion Control plan shall be implemented on all disturbed areas within the construction site. All measures involving Erosion Control practices shall be installed under the guidance of a qualified person experienced in Erosion Control and following the plans and specifications included herein.

6. During the period of construction activity, all sediment basins and other Erosion Control measures shall be maintained by the contractor. At the completion of construction, the contractor shall coordinate the transfer of required maintenance responsibilities with the owner.

7. Public or private roadways shall be kept cleared of accumulated sediment. Bulk clearing of accumulated sediment shall not include flushing the area with water. Cleared sediment shall be returned to the point of likely origin or other suitable location.

8. The contractor shall control wastes, garbage, debris, wastewater, and other substances on the site in such a way that they shall not be transported from the site by the action of winds, storm water runoff, or other forces. Proper disposal or management of all wastes and unused building materials appropriate to the nature of the waste or material is required.

9. Additional Erosion Control measures may be required by state or county agencies.

ADDITIONAL MATERIAL HANDLING AND SPILL PREVENTION PLAN

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

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

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

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

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

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

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

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

I. Vehicle and Equipment Fueling

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

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

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

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

II. Solid Waste Management

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

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

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

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

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

III. Concrete Washout

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

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

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

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

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

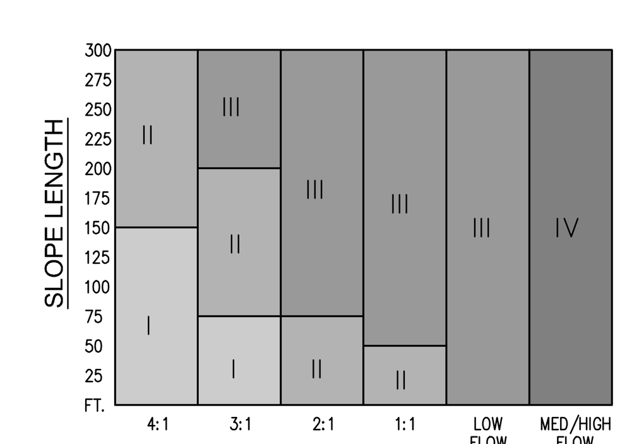
Purpose– To prevent spills during the use and storage of the materials

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

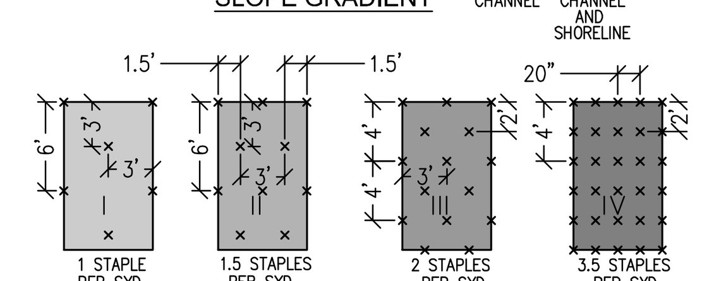
VI. Disposal of sediment laden water

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

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



SLOPE GRADIENT



EROSION CONTROL BLANKET STAPLE PATTERN DETAIL

PERMANENT SEED MIXTURES

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

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

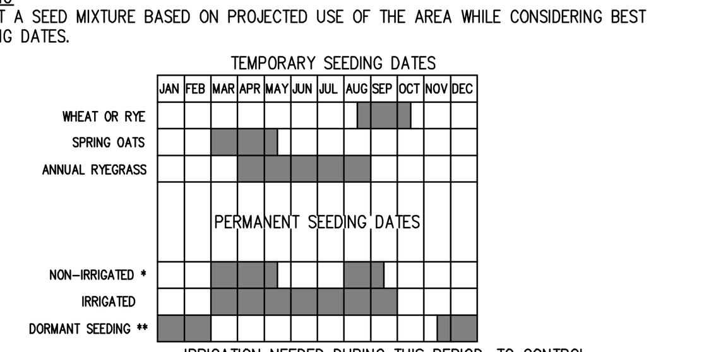
SPECIES	SOIL CONDITION WET	NORM	DRY	SHADE TOLERANCE	CLOSE MOWING TO 2-3 1/2 INCHES	TRAMPING TOLERANCE	FERTILITY NEEDS	WINTER HARDINESS	FLOODING TOLERANCE (DAYS)	MATURE HEIGHT (INCHES)	EMERGENCE TIME (DAYS)	SALT TOLERANCE GEN.	SOIL	SPRAY
CREEPING RED FESCUE FESTUCA RUBRA	2	1	2	1	1	1	MED.	1	20–25	12–18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

RANKING
1 GOOD
2 MEDIUM
– NOT TOLERANT

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

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

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



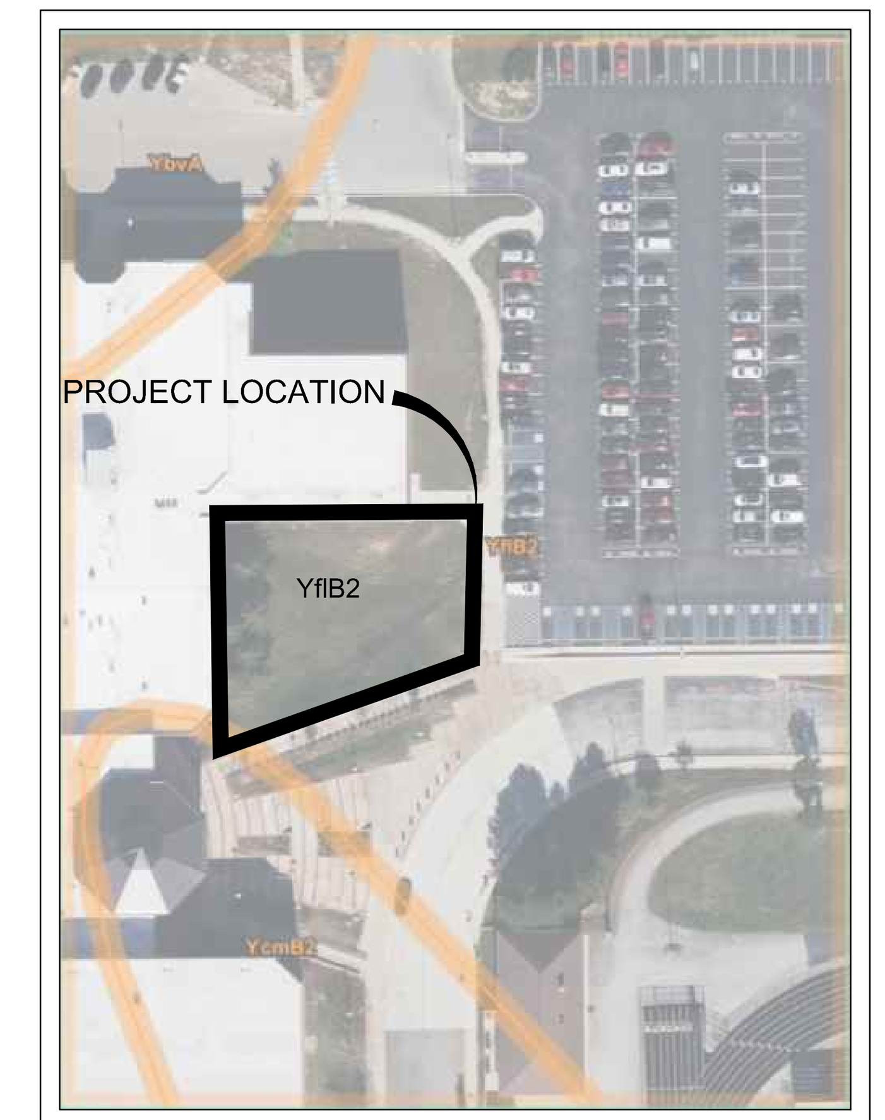
* –LATE SUMMER SEEDING DATES MAY BE EXTENDED 5 DAYS IF MULCH IS APPLIED.

** –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 *

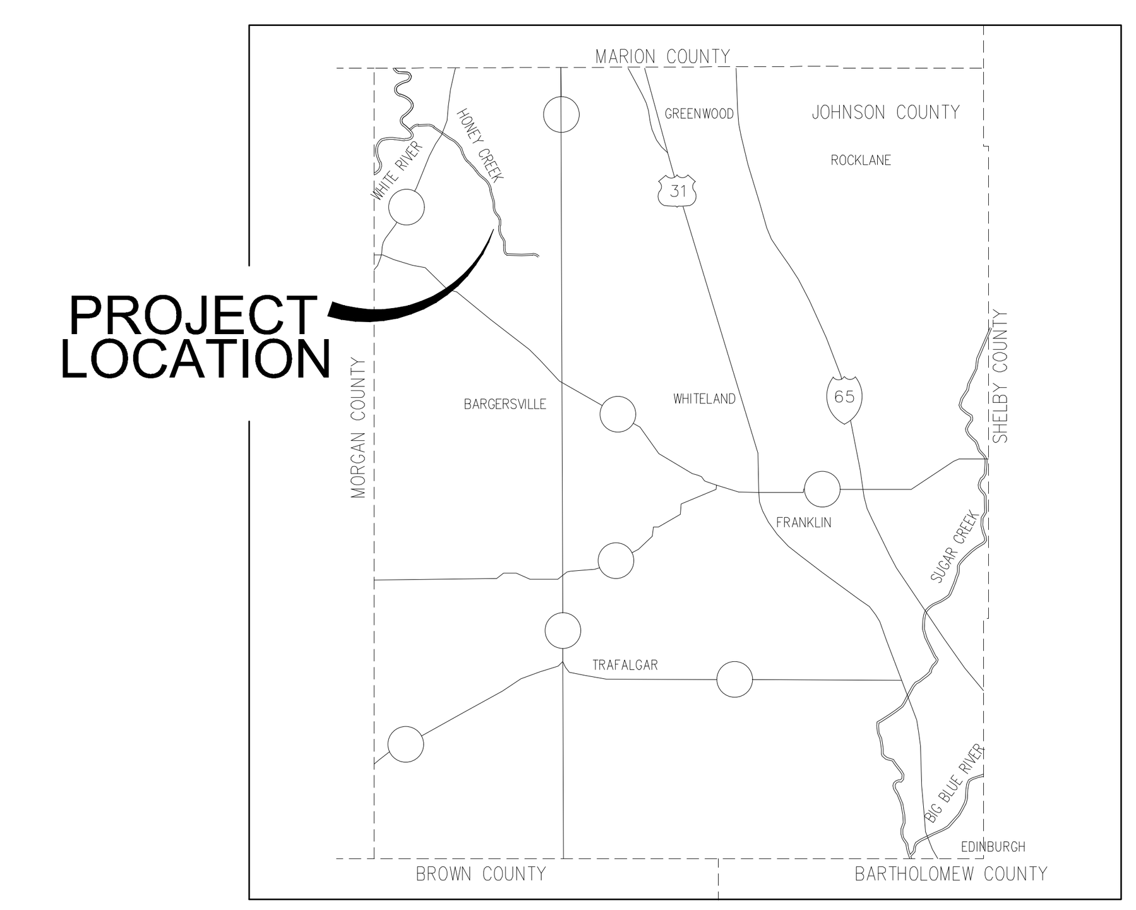
* NOT NECESSARY WHERE MULCH IS APPLIED.



Johnson County, Indiana (IN081)

FOX LOAM-URBAN LAND COMPLEX (YflB2)
This slightly sloping soil is found in the till plains of loess over loamy till soils. Slopes are 2 to 6 percent. Runoff is low. Soil of this type is typically well drained with no frequency of flooding or ponding.

SOIL MAP AND DESCRIPTION
NOT TO SCALE



COUNTY LOCATION MAP
NO SCALE

LEGAL DESCRIPTION

BOOK 98, PAGE 451
PART OF THE WEST HALF OF THE NORTHWEST QUARTER OF SECTION FIFTEEN (15), TOWNSHIP THIRTEEN (13) NORTH, RANGE THREE (3) EAST OF THE SECOND PRINCIPAL MERIDIAN, DESCRIBED AS FOLLOWS:

BEGINNING AT THE NORTHWEST CORNER OF SAID HALF QUARTER SECTION; THENCE SOUTH ON THE WEST LINE THEREOF, TWENTY-FIVE (25) RODS; THENCE EAST AND PARALLEL WITH THE NORTH LINE OF SAID HALF QUARTER SECTION, TWENTY-SIX (26) RODS AND TWENTY-FOUR (24) LINKS; THENCE SOUTH AND PARALLEL TO THE WEST LINE OF SAID HALF QUARTER SECTION, THIRTY-SEVEN (37) RODS AND TWENTY (20) LINKS; THENCE EAST AND PARLLEL WITH THE NORTH LINE OF SAID HALF QUARTER SECTION, FIFTY-FIVE (55) RODS AND ONE (1) LINK, MORE OR LESS, TO THE EAST LINE OF SAID HALF QUARTER SECTION; THENCE NORTH, SIXTY-TWO (62) RODS AND TWENTY (20) LINKS TO THE NORTHEAST CORNER THEREOF; THENCE WEST, EIGHTY (80) RODS, MORE OR LESS, TO THE PLACE OF BEGINNING, CONTAINING TWENTY-FIVE (25) ACRES, MORE OR LESS.

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

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

NORTH

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

EROSION CONTROL NOTES

CG HIGH SCHOOL BLACK BOX THEATER

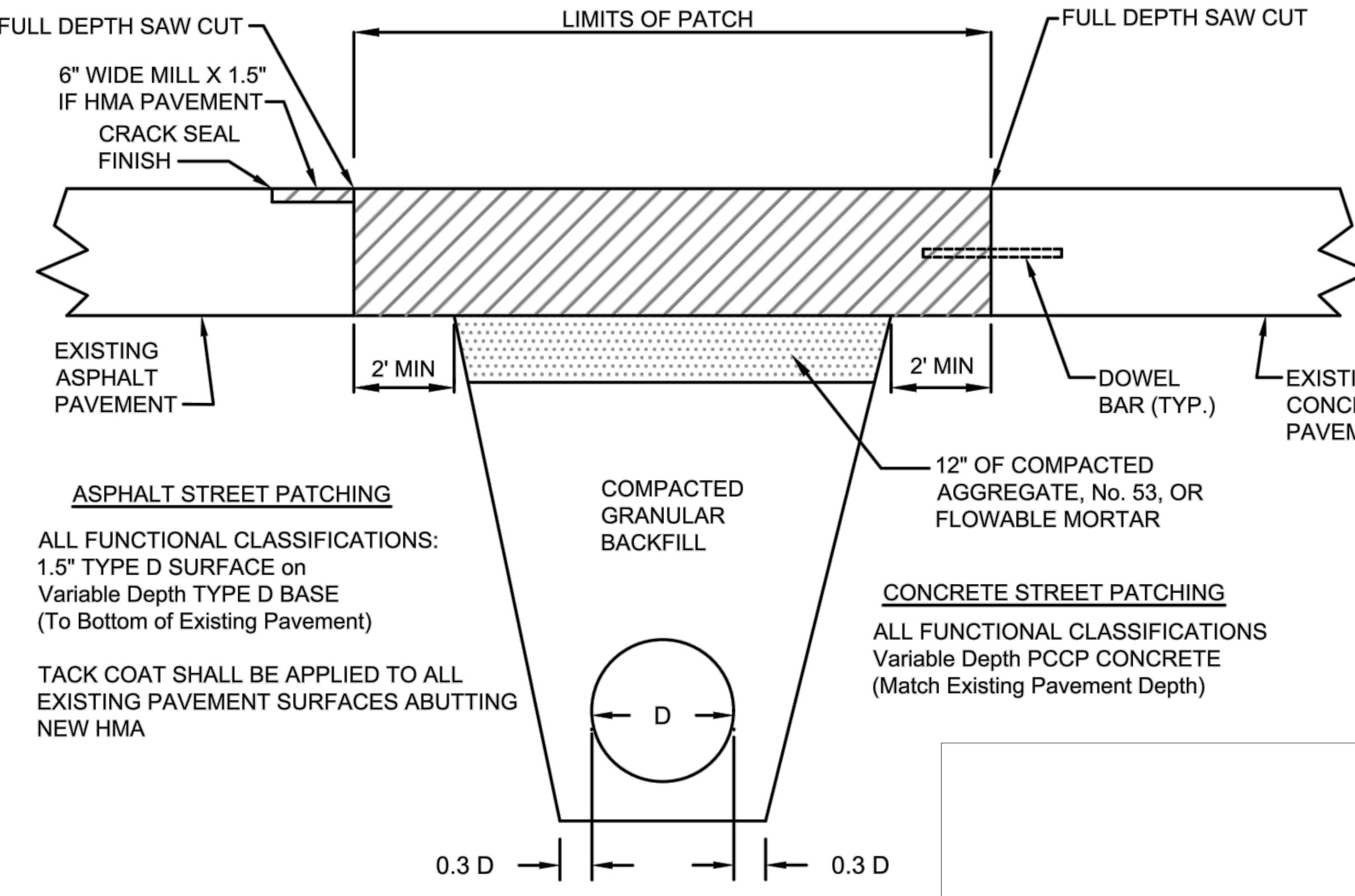
JOB No. .	DRAWN DEP	CHECKED GJI
DATE FEBRUARY 07, 2023	DESIGNED DJM	APPR. GJI

SHEET 601

GREGORY J. ILKO REGISTERED No. 10300059 STATE OF INDIANA PROFESSIONAL ENGINEER
PRELIMINARY NOT FOR CONSTRUCTION

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

SHEET 601



ASPHALT STREET PATCHING

ALL FUNCTIONAL CLASSIFICATIONS:
1.5" TYPE D SURFACE on
Variable Depth TYPE D BASE
(To Bottom of Existing Pavement)

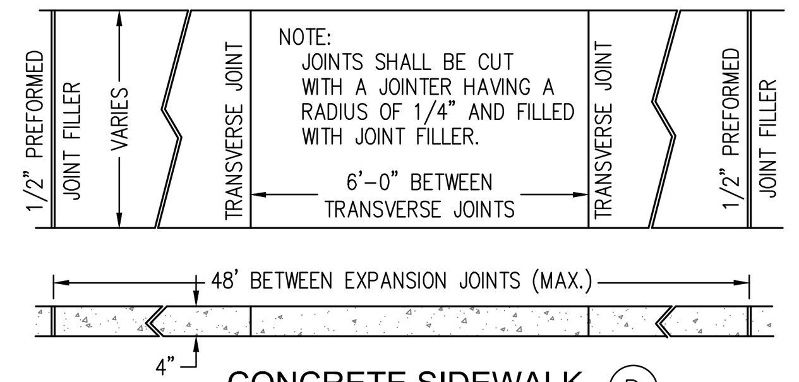
TACK COAT SHALL BE APPLIED TO ALL EXISTING PAVEMENT SURFACES ABUTTING NEW HMA

CONCRETE STREET PATCHING

ALL FUNCTIONAL CLASSIFICATIONS
Variable Depth PCCP CONCRETE
(Match Existing Pavement Depth)

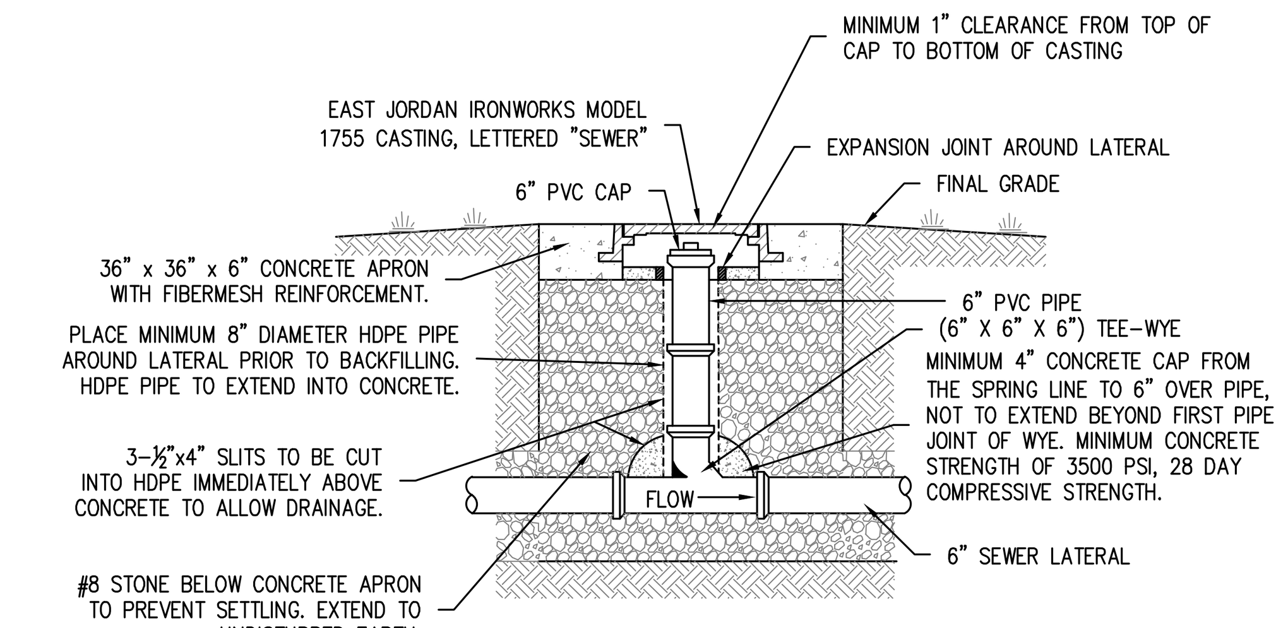
Ⓚ PAVEMENT REPAIR DETAIL

NOT TO SCALE



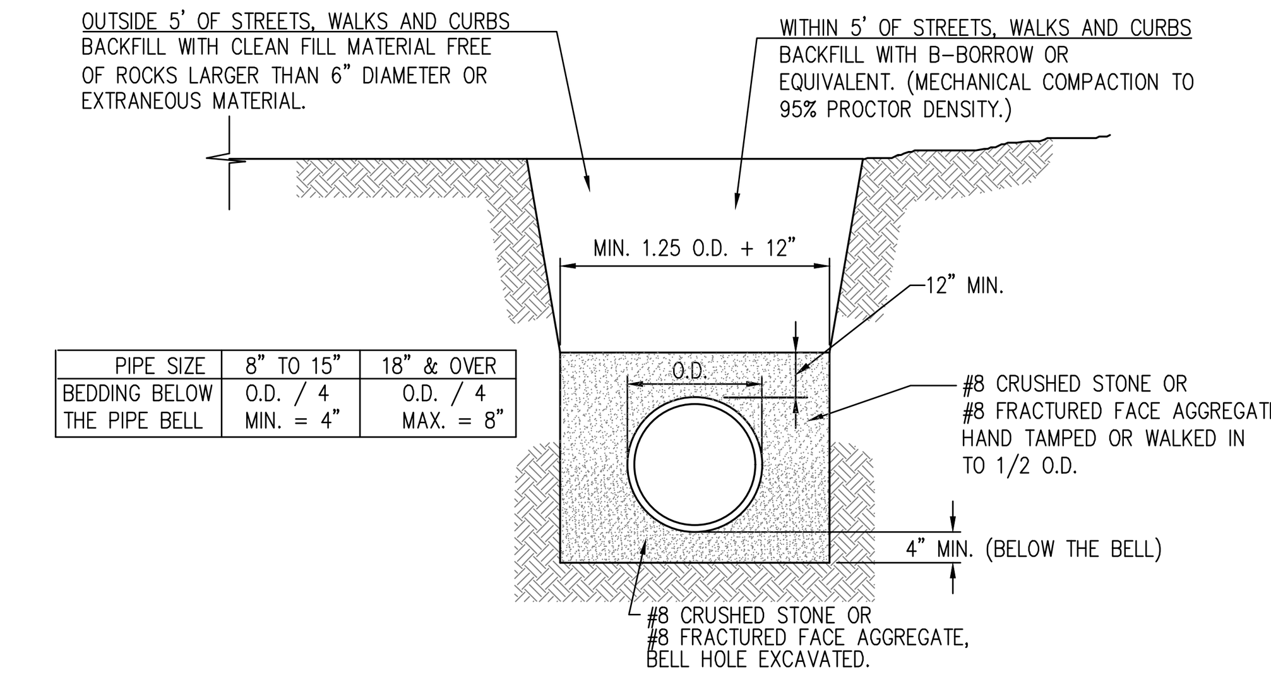
CONCRETE SIDEWALK Ⓓ

NOT TO SCALE



CLEANOUT DETAIL

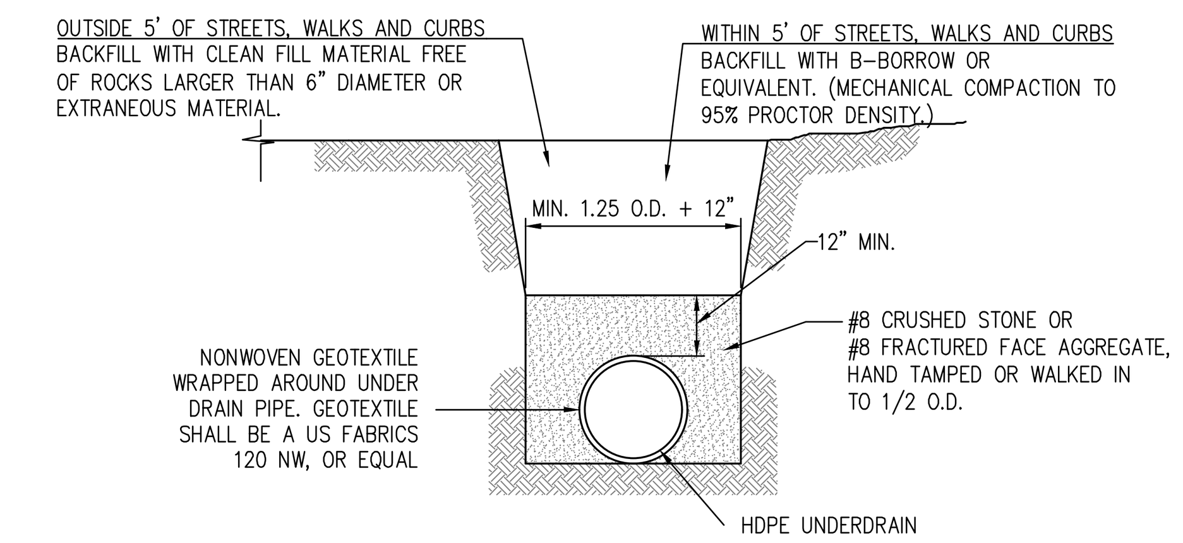
NOT TO SCALE
(HARDSCAPE SURFACES AND ALL OTHER INSTALLATIONS BEYOND THREE FEET OF BUILDING)



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

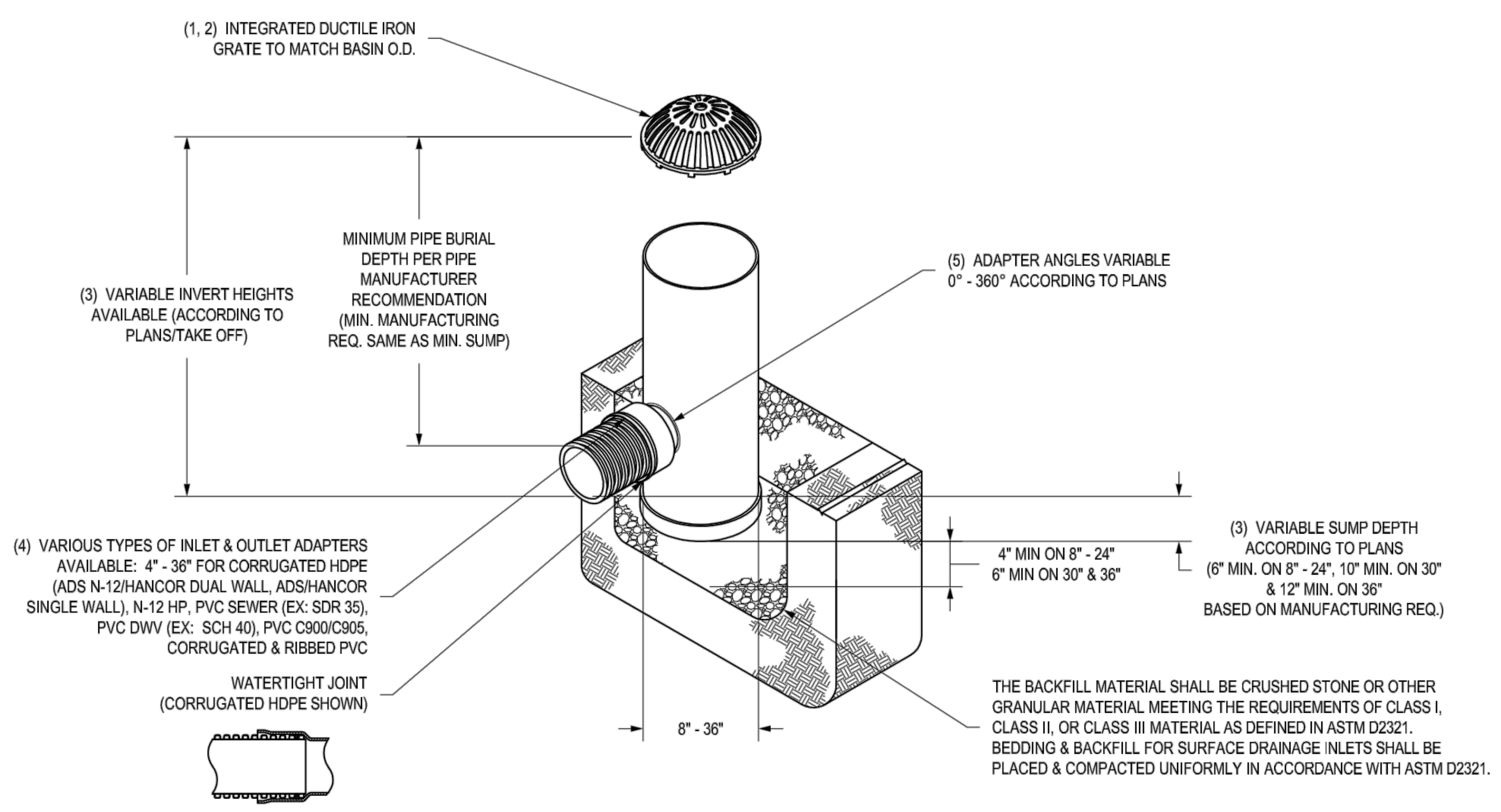
NOT TO SCALE



HDPE UNDERDRAIN DETAIL

NOT TO SCALE

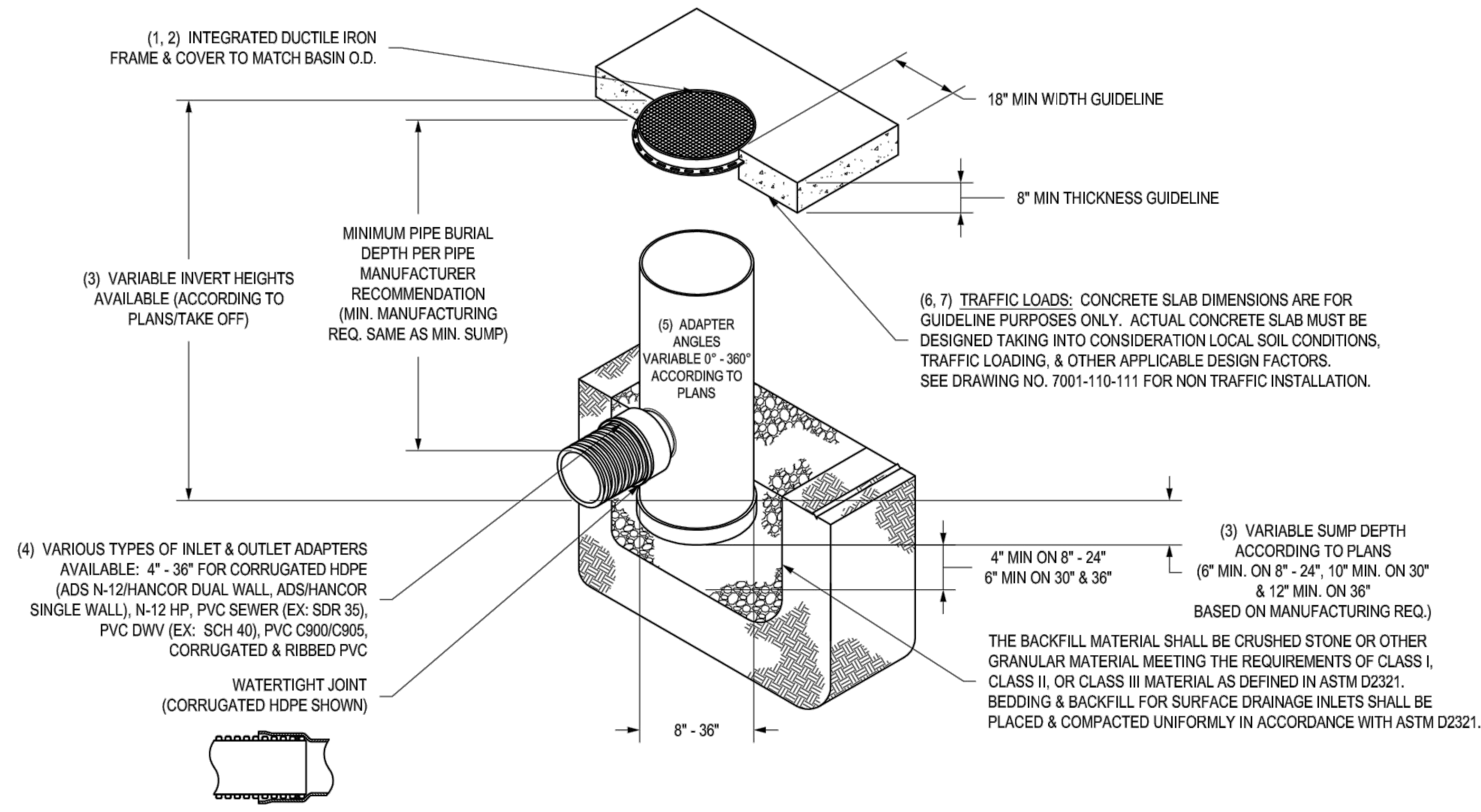
NYLOPLAST DRAIN BASIN WITH DOME GRATE



1 - 8" - 30" DOME GRATES SHALL BE DUCTILE IRON PER ASTM A536 GRADE 70-50-05.
2 - 8" & 10" DOME GRATES FIT ONTO THE DRAIN BASINS WITH THE USE OF A PVC BODY TOP. SEE DRAWING NO. 7001-110-045.
3 - DRAIN BASIN TO BE CUSTOM MANUFACTURED ACCORDING TO PLAN DETAILS. RISERS ARE NEEDED FOR BASINS OVER 84" DUE TO SHIPPING RESTRICTIONS. SEE DRAWING NO. 7001-110-065.
4 - DRAINAGE CONNECTION STUB JOINT TIGHTNESS SHALL CONFORM TO ASTM D3212 FOR CORRUGATED HDPE (ADS N-12/HANCOR DUAL WALL), N-12 HP, & PVC SEWER (4" - 36").
5 - ADAPTERS CAN BE MOUNTED ON ANY ANGLE 0° TO 360°. TO DETERMINE MINIMUM ANGLE BETWEEN ADAPTERS SEE DRAWING NO. 7001-110-012.
6 - 8" - 30" DOME GRATES HAVE NO LOAD RATING.

THIS PRINT DISCLOSES SUBJECT MATTER IN WHICH NYLOPLAST HAS PROPRIETARY RIGHTS. THE RECEIPT OR POSSESSION OF THIS PRINT DOES NOT CONFER, TRANSFER, OR LICENSE THE USE OF THE DESIGN OR TECHNICAL INFORMATION SHOWN HEREIN REPRODUCTION OF THIS PRINT OR ANY INFORMATION CONTAINED HEREIN, OR MANUFACTURE OF ANY ARTICLE HEREFROM, FOR THE DISCLOSURE TO OTHERS IS FORBIDDEN, EXCEPT BY SPECIFIC WRITTEN PERMISSION FROM NYLOPLAST. ©2013 NYLOPLAST	DRAWN BY EBC DATE 03-25-10	MATERIAL	ADS Nyloplast — 3130 VERONA AVE BUFORD, GA 30518 PHN (770) 932-2443 FAX (770) 932-2490 www.nyloplast-us.com
	REVISED BY NMH DATE 06-12-18	PROJECT NO./NAME	TITLE DRAIN BASIN WITH DOME GRATE QUICK SPEC INSTALLATION DETAIL
	DWG SIZE A	SCALE 1:40 SHEET 1 OF 1	DWG NO. 7001-110-397 REV E

NYLOPLAST DRAIN BASIN WITH SOLID COVER

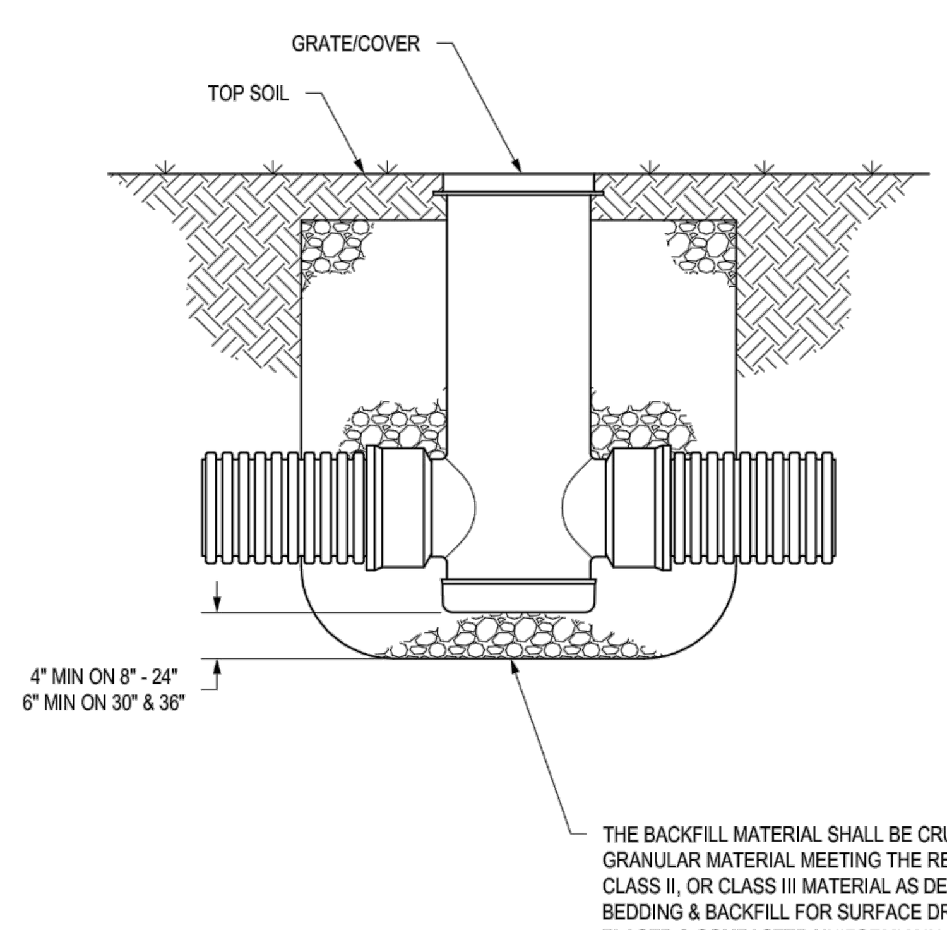


1 - 8" - 30" SOLID COVERS SHALL BE DUCTILE IRON PER ASTM A536 GRADE 70-50-05.
2 - 12" - 30" FRAMES SHALL BE DUCTILE IRON PER ASTM A536 GRADE 70-50-05. 8" & 10" SOLID COVERS FIT DIRECTLY ONTO DRAIN BASINS WITH THE USE OF A PVC BODY TOP. SEE DRAWING NO. 7001-110-045.
3 - DRAIN BASIN TO BE CUSTOM MANUFACTURED ACCORDING TO PLAN DETAILS. RISERS ARE NEEDED FOR BASINS OVER 84" DUE TO SHIPPING RESTRICTIONS. SEE DRAWING NO. 7001-110-065.
4 - DRAINAGE CONNECTION STUB JOINT TIGHTNESS SHALL CONFORM TO ASTM D3212 FOR CORRUGATED HDPE (ADS N-12/HANCOR DUAL WALL), N-12 HP, & PVC SEWER (4" - 36").
5 - ADAPTERS CAN BE MOUNTED ON ANY ANGLE 0° TO 360°. TO DETERMINE MINIMUM ANGLE BETWEEN ADAPTERS SEE DRAWING NO. 7001-110-012.
6 - 12" - 30" SOLID COVERS SHALL MEET H-20 LOAD RATING.
7 - 8" & 10" SOLID COVERS ARE RATED FOR LIGHT DUTY APPLICATIONS ONLY; NO CONCRETE COLLAR NEEDED FOR LIGHT DUTY RATING.

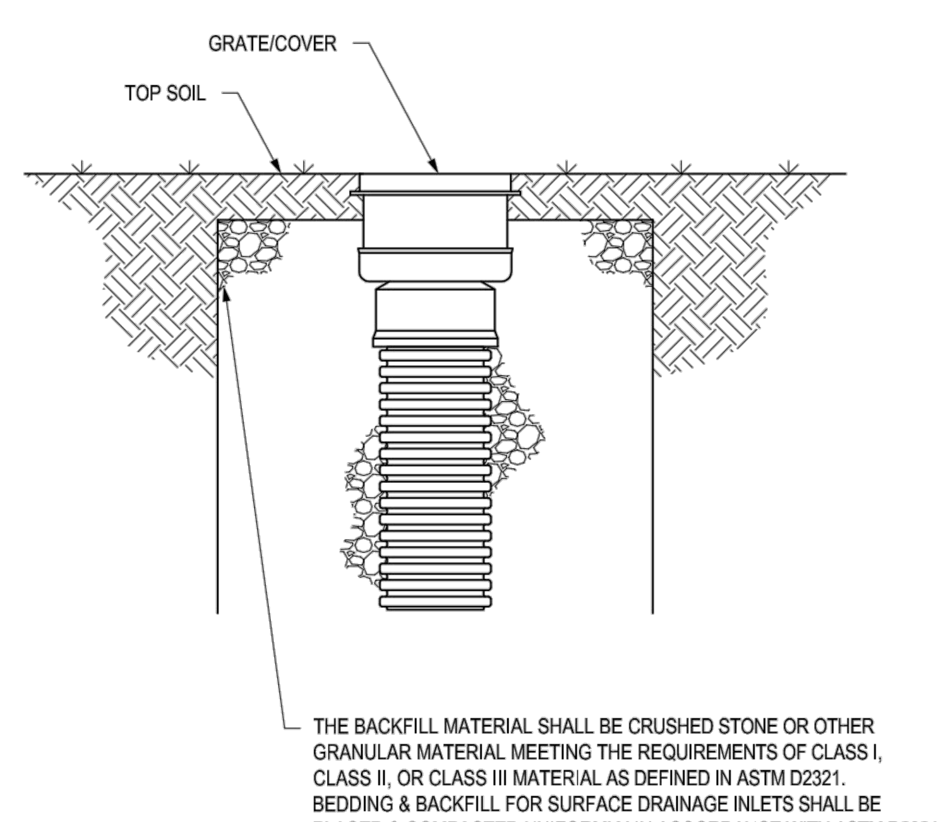
THIS PRINT DISCLOSES SUBJECT MATTER IN WHICH NYLOPLAST HAS PROPRIETARY RIGHTS. THE RECEIPT OR POSSESSION OF THIS PRINT DOES NOT CONFER, TRANSFER, OR LICENSE THE USE OF THE DESIGN OR TECHNICAL INFORMATION SHOWN HEREIN REPRODUCTION OF THIS PRINT OR ANY INFORMATION CONTAINED HEREIN, OR MANUFACTURE OF ANY ARTICLE HEREFROM, FOR THE DISCLOSURE TO OTHERS IS FORBIDDEN, EXCEPT BY SPECIFIC WRITTEN PERMISSION FROM NYLOPLAST. ©2013 NYLOPLAST	DRAWN BY EBC DATE 09-14-07	MATERIAL	ADS Nyloplast — 3130 VERONA AVE BUFORD, GA 30518 PHN (770) 932-2443 FAX (770) 932-2490 www.nyloplast-us.com
	REVISED BY NMH DATE 06-12-18	PROJECT NO./NAME	TITLE DRAIN BASIN WITH SOLID COVER QUICK SPEC INSTALLATION DETAIL
	DWG SIZE A	SCALE 1:40 SHEET 1 OF 1	DWG NO. 7001-110-298 REV E

NON TRAFFIC INSTALLATION

DRAIN BASIN

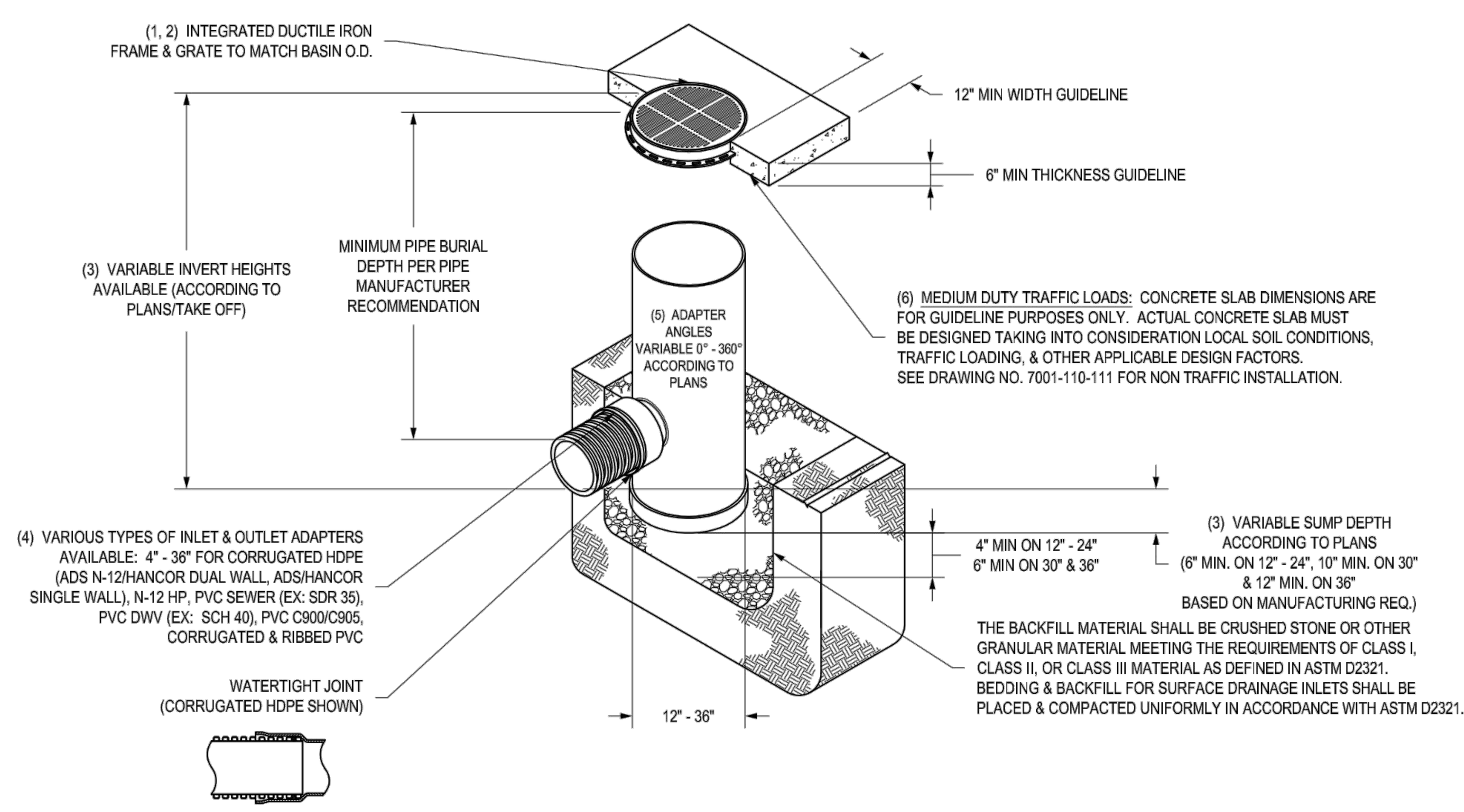


INLINE DRAIN



THIS PRINT DISCLOSES SUBJECT MATTER IN WHICH NYLOPLAST HAS PROPRIETARY RIGHTS. THE RECEIPT OR POSSESSION OF THIS PRINT DOES NOT CONFER, TRANSFER, OR LICENSE THE USE OF THE DESIGN OR TECHNICAL INFORMATION SHOWN HEREIN REPRODUCTION OF THIS PRINT OR ANY INFORMATION CONTAINED HEREIN, OR MANUFACTURE OF ANY ARTICLE HEREFROM, FOR THE DISCLOSURE TO OTHERS IS FORBIDDEN, EXCEPT BY SPECIFIC WRITTEN PERMISSION FROM NYLOPLAST. ©2011 NYLOPLAST	DRAWN BY CJA DATE 9-30-99	MATERIAL	ADS Nyloplast — 3130 VERONA AVE BUFORD, GA 30518 PHN (770) 932-2443 FAX (770) 932-2490 www.nyloplast-us.com
	REVISED BY NMH DATE 03-11-16	PROJECT NO./NAME	TITLE DRAIN BASIN & INLINE DRAIN NON TRAFFIC INSTALLATION
	DWG SIZE A	SCALE 1:25 SHEET 1 OF 1	DWG NO. 7001-110-111 REV F

NYLOPLAST DRAIN BASIN WITH PEDESTRIAN GRATE



1 - 12" - 30" PEDESTRIAN GRATES SHALL BE DUCTILE IRON PER ASTM A536 GRADE 70-50-05.
2 - 12" - 30" FRAMES SHALL BE DUCTILE IRON PER ASTM A536 GRADE 70-50-05.
3 - DRAIN BASIN TO BE CUSTOM MANUFACTURED ACCORDING TO PLAN DETAILS. RISERS ARE NEEDED FOR BASINS OVER 84" DUE TO SHIPPING RESTRICTIONS. SEE DRAWING NO. 7001-110-065.
4 - DRAINAGE CONNECTION STUB JOINT TIGHTNESS SHALL CONFORM TO ASTM D3212 FOR CORRUGATED HDPE (ADS N-12/HANCOR DUAL WALL), N-12 HP, & PVC SEWER (4" - 36").
5 - ADAPTERS CAN BE MOUNTED 0° TO 360°. TO DETERMINE MINIMUM ANGLE BETWEEN ADAPTERS SEE DRAWING NO. 7001-110-012.
6 - 12" - 24" PEDESTRIAN GRATES SHALL MEET H-10 LOAD RATING. 30" PEDESTRIAN GRATE SHALL MEET H-20 LOAD RATING (SEE DRAWING NO. 7001-110-144 FOR H-20 TRAFFIC LOAD GUIDELINES).

THIS PRINT DISCLOSES SUBJECT MATTER IN WHICH NYLOPLAST HAS PROPRIETARY RIGHTS. THE RECEIPT OR POSSESSION OF THIS PRINT DOES NOT CONFER, TRANSFER, OR LICENSE THE USE OF THE DESIGN OR TECHNICAL INFORMATION SHOWN HEREIN REPRODUCTION OF THIS PRINT OR ANY INFORMATION CONTAINED HEREIN, OR MANUFACTURE OF ANY ARTICLE HEREFROM, FOR THE DISCLOSURE TO OTHERS IS FORBIDDEN, EXCEPT BY SPECIFIC WRITTEN PERMISSION FROM NYLOPLAST. ©2013 NYLOPLAST	DRAWN BY EBC DATE 4-20-07	MATERIAL PVC	ADS Nyloplast — 3130 VERONA AVE BUFORD, GA 30518 PHN (770) 932-2443 FAX (770) 932-2490 www.nyloplast-us.com
	REVISED BY NMH DATE 06-12-18	PROJECT NO./NAME	TITLE DRAIN BASIN WITH PEDESTRIAN GRATE QUICK SPEC INSTALLATION DETAIL
	DWG SIZE A	SCALE 1:40 SHEET 1 OF 1	DWG NO. 7001-110-283 REV E

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

SHEET 700

MISCELLANEOUS DETAILS

CG HIGH SCHOOL BLACK BOX THEATER

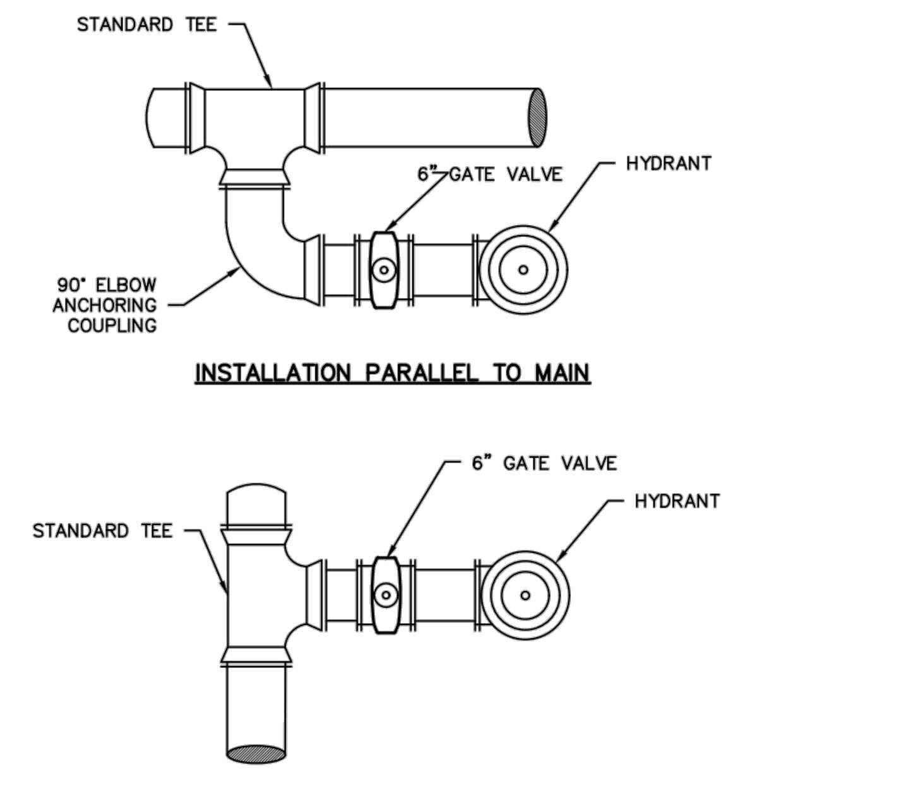
JOB No. .	DRAWN DEP	CHECKED GJI	
DATE FEBRUARY 07, 2023	DESIGNED DJM	APPR. GJI	

GREGORY J. ILKO
REGISTERED
No. 10300059
STATE OF INDIANA
PROFESSIONAL ENGINEER
PRELIMINARY
NOT FOR CONSTRUCTION
[illegible]

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

SHEET 700

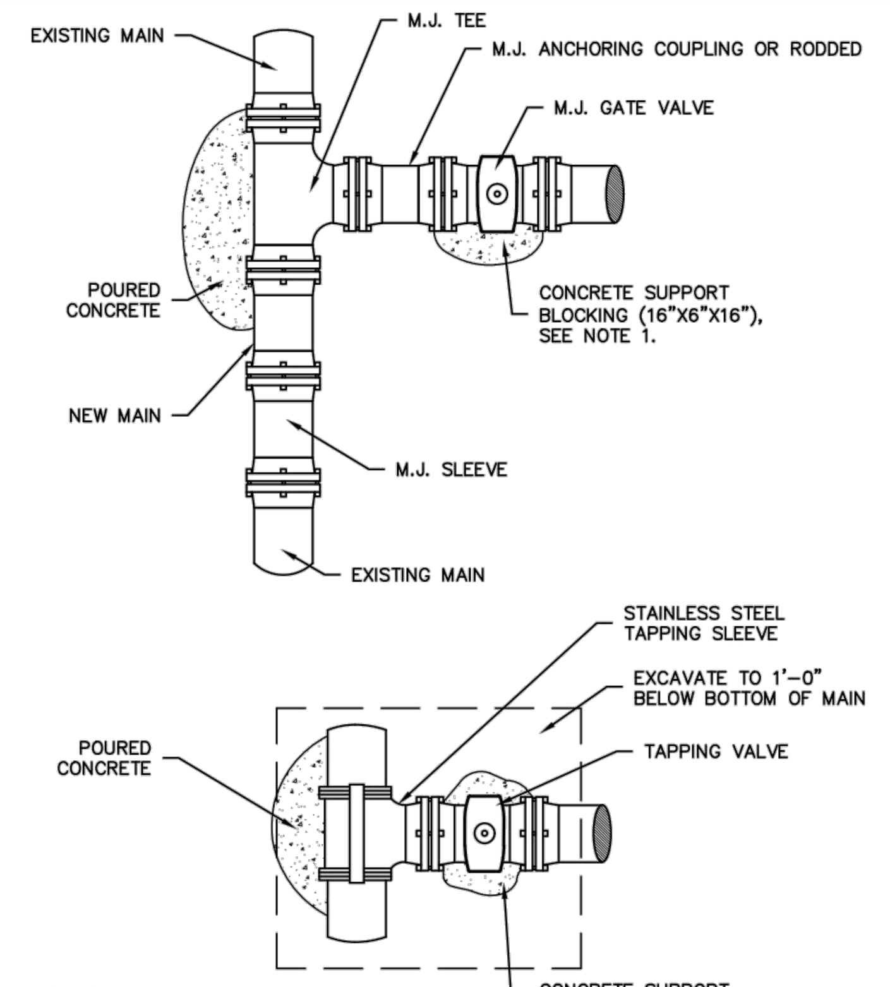
DIRECTORY PATH : R:\Active\Center Grove Community School Corporation\Black Box\Design\CAD\Plans
FILENAME : 700 MISCELLANEOUS DETAILS.dwg
DATE/USER : 12/13/2022 2:02 PM / Dpeloso



NOTE:
1. ALL TEES MUST HAVE POURED THRUST BLOCKS. (SEE APPLICABLE DETAILS).

HYDRANT CONNECTION
SCALE: NONE

TOWN OF BARGERSVILLE, INDIANA APPROVED SEPTEMBER 25, 2018
DETAIL NO. DW-17
DATE: JAN 2015



NOTES:
1. RESTRAINED FITTINGS SHALL BE USED IN ADDITION TO POURED CONCRETE THRUST BLOCKING.

MAIN CONNECTION
SCALE: NONE

TOWN OF BARGERSVILLE, INDIANA APPROVED SEPTEMBER 25, 2018
DETAIL NO. DW-18
DATE: JAN 2015

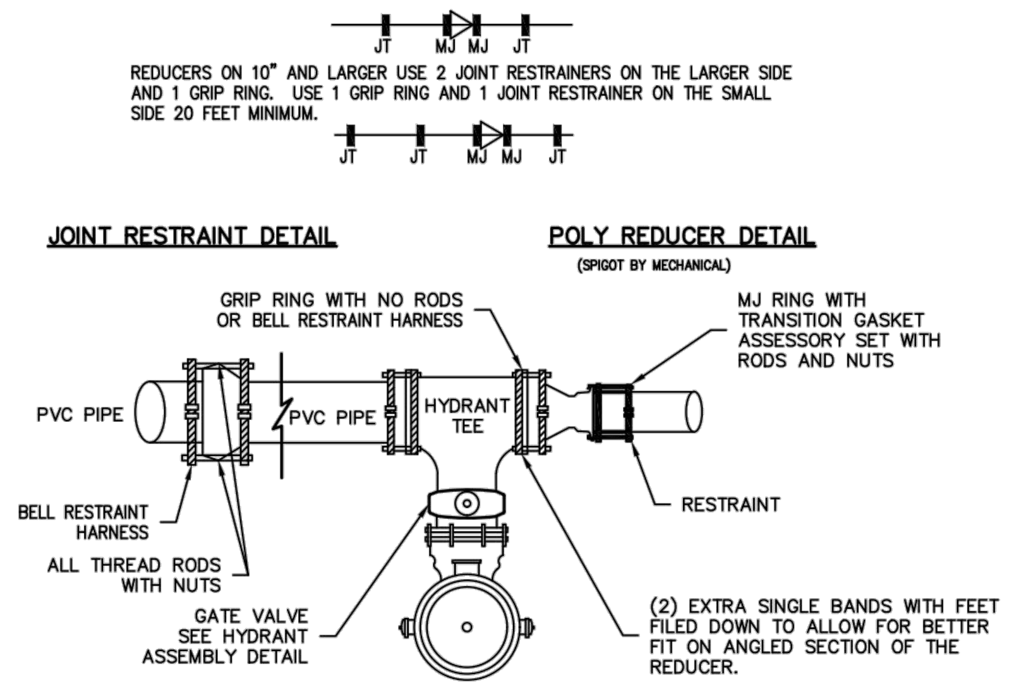
BEND RESTRAINT
ALL BENDS REQUIRE RESTRAINERS
ALL BENDS ARE DUCTILE IRON AND REQUIRE (1) GRIP RING ON EACH SIDE OF THE FITTING.

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.

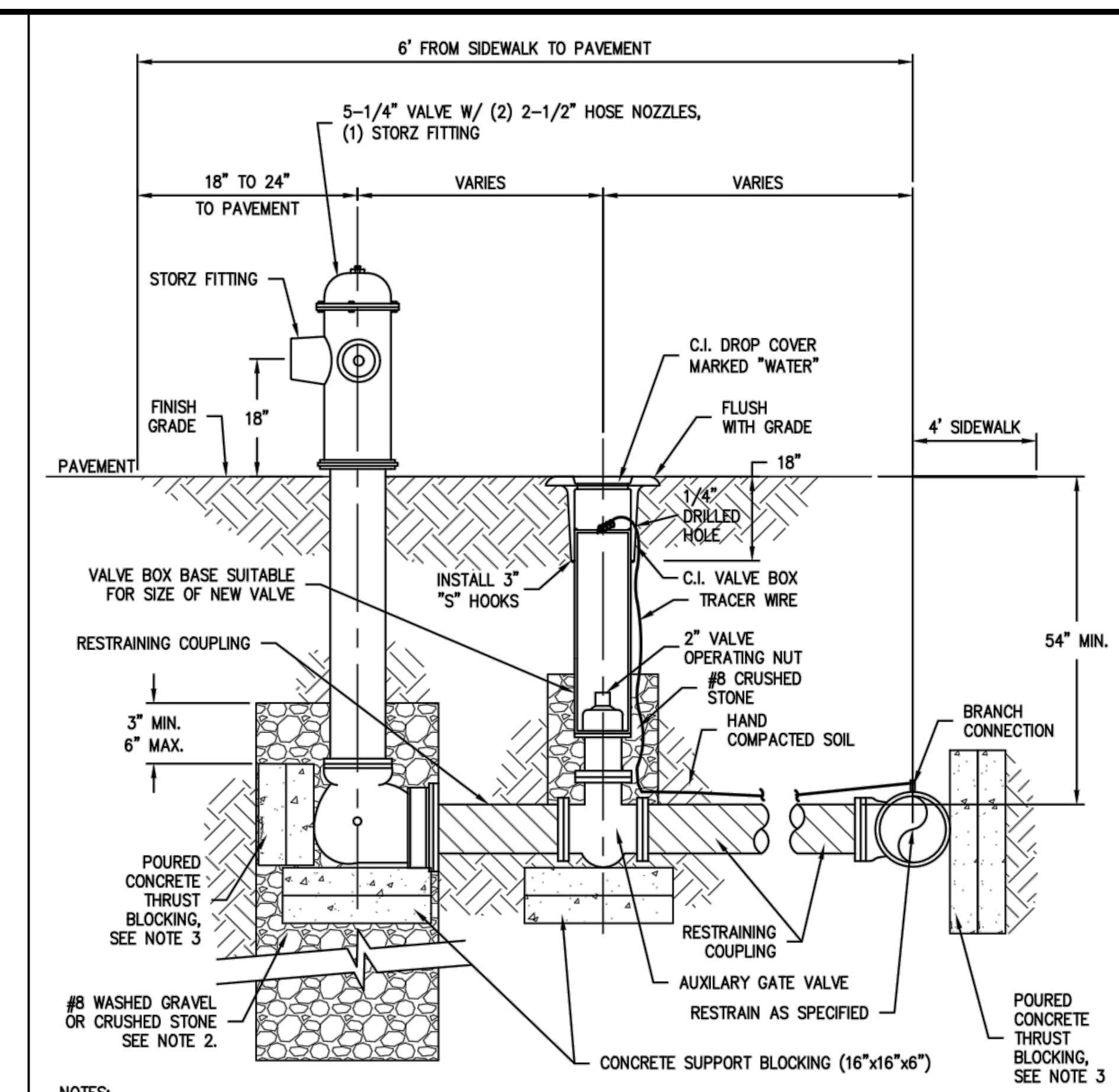
MAIN LINE REDUCER
REDUCERS CAN ONLY BE USED AT A INTERSECTION
REDUCERS ON 6" AND 8" USE 1 GRIP RING AND 1 JOINT RESTRAINER ON EACH SIDE OF THE REDUCER 20 FEET MINIMUM.

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.



INSTALLATION OF RESTRAINTS
SCALE: NONE

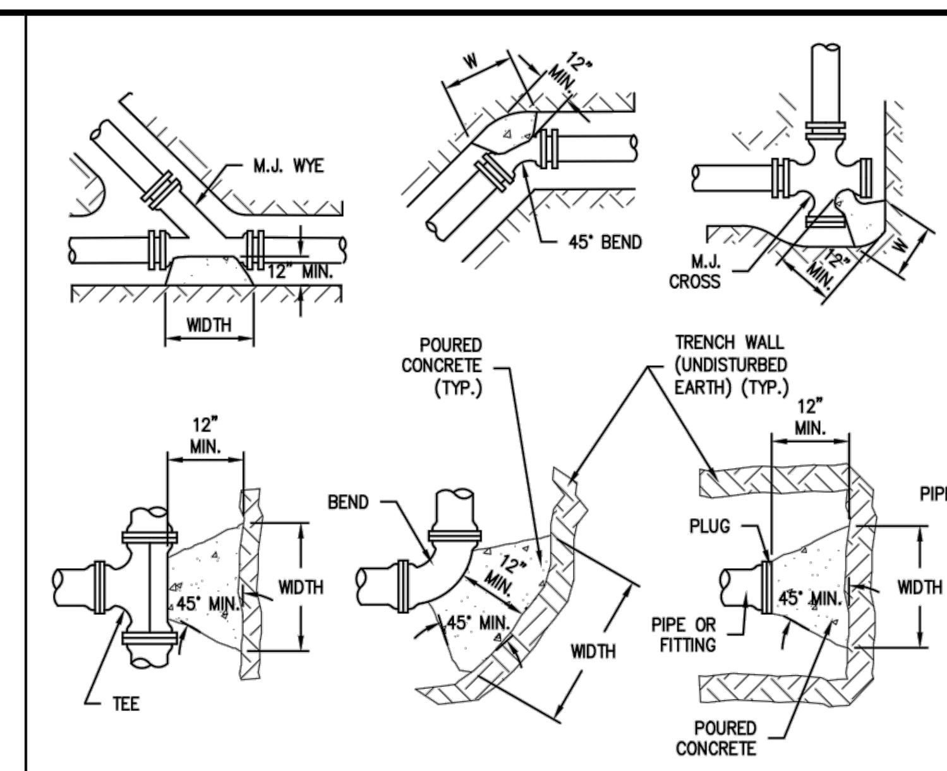
TOWN OF BARGERSVILLE, INDIANA APPROVED SEPTEMBER 25, 2018
DETAIL NO. DW-16
DATE: JAN 2015
REV DATE: OCT 2016



NOTES:
1. SET HYDRANT & VALVE ON CONCRETE SUPPORT BLOCKING.
2. PLACE 2'x3' DEEP DRAINAGE PIT, EXTEND A MINIMUM OF 3", AND MAXIMUM OF 6", ABOVE HYDRANT BOOT.
3. RESTRAINED FITTINGS SHALL BE USED IN ADDITION TO CONCRETE THRUST BLOCKING. RESTRAINTS MUST BE USED FROM THE DISTRIBUTION MAIN TO THE HYDRANT. PLACE CONCRETE BLOCKS BEHIND HYDRANT TO UNDISTURBED EARTH.
4. VALVE BOX SHALL BE CENTERED AND PLUMB OVER VALVE OPERATING NUT.
5. INSTALL HYDRANT LOCATED ON 6" AND LARGER MAINS, OR COUNTY ROADS AT LOCATIONS AS APPROVED BY THE UTILITY.
6. SWIVEL 90° BEND MAY BE USED TO INSTALL THE HYDRANT AND VALVE IN THE GRASS STRIP BETWEEN CURB AND SIDEWALK WITH THE STORZ FITTING FACING THE ROADWAY.
6. ALL VALVES SHALL HAVE POSI-CAPS.
7. PROVIDE RED PRIVATE HYDRANTS.
8. PROVIDE YELLOW PUBLIC HYDRANTS WITH GLOSS BLACK CAPS.

HYDRANT ASSEMBLY
SCALE: NONE

TOWN OF BARGERSVILLE, INDIANA APPROVED SEPTEMBER 25, 2018
DETAIL NO. DW-04
DATE: JAN 2015
REV DATE: OCT 2016



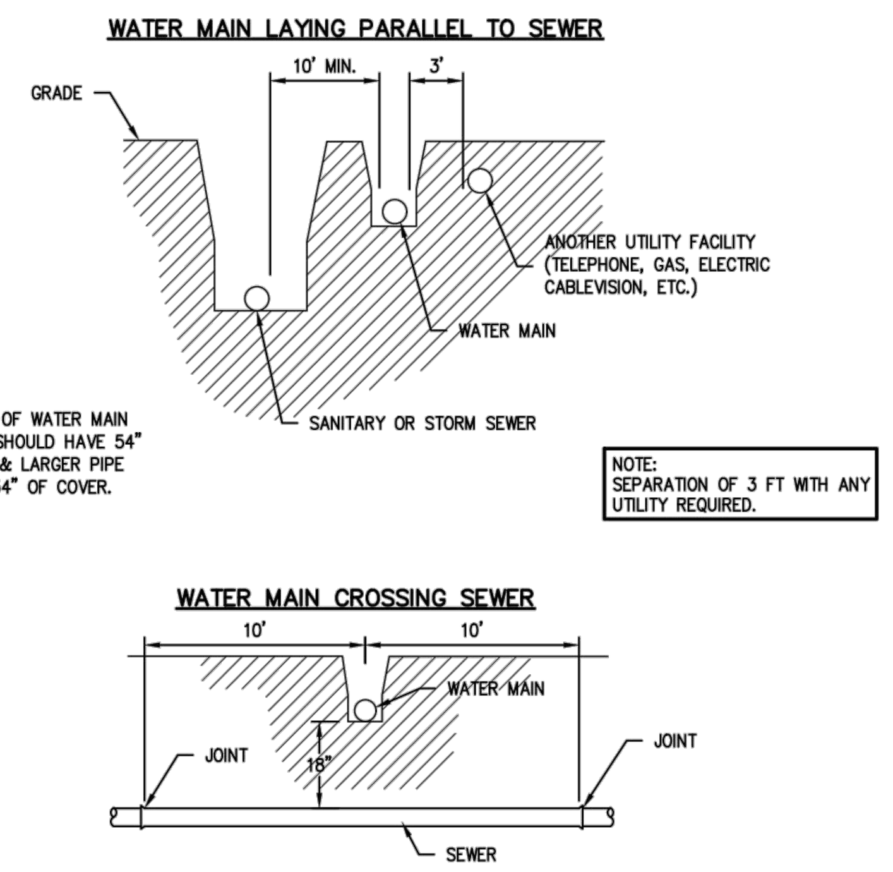
AREA IN SQUARE FEET REQUIRED FOR CONCRETE THRUST BLOCKING					
SIZE	TEE & PLUG	90° BEND	45° BEND	22½° BEND	11¼° BEND
4"	2.0	2.5	1.5	1.0	1.0
6"	4.0	5.5	3.0	1.5	1.0
8"	6.5	9.0	5.0	2.5	1.5
10"	10.0	14.0	7.5	4.0	2.0
12"	14.0	20.0	11.0	5.5	3.0
14"	19.0	27.0	14.5	7.5	4.0
16"	25.0	35.0	19.0	10.0	5.0
18"	31.5	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 SEPTEMBER 25, 2018
DETAIL NO. DW-06
DATE: JAN 2015

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

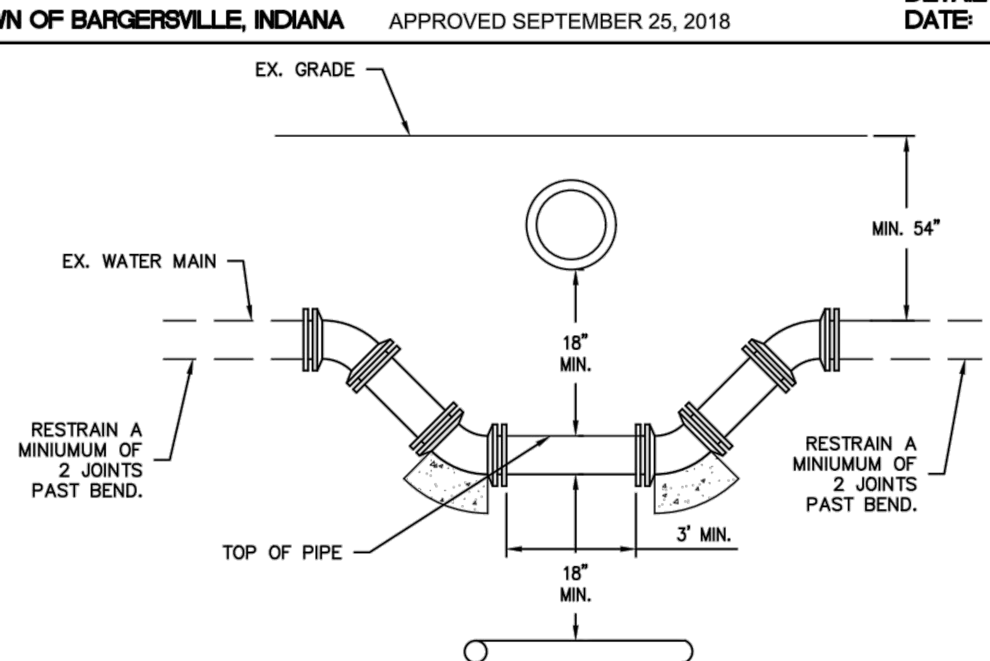


TYPICAL DEPTH OF WATER MAIN 6", & 8" PIPE SHOULD HAVE 54" OF COVER. 10" & LARGER PIPE SHOULD HAVE 54" OF COVER.

NOTE:
SEPARATION OF 3 FT WITH ANY UTILITY REQUIRED.

WATER MAIN & SEWER SEPARATION
SCALE: NONE

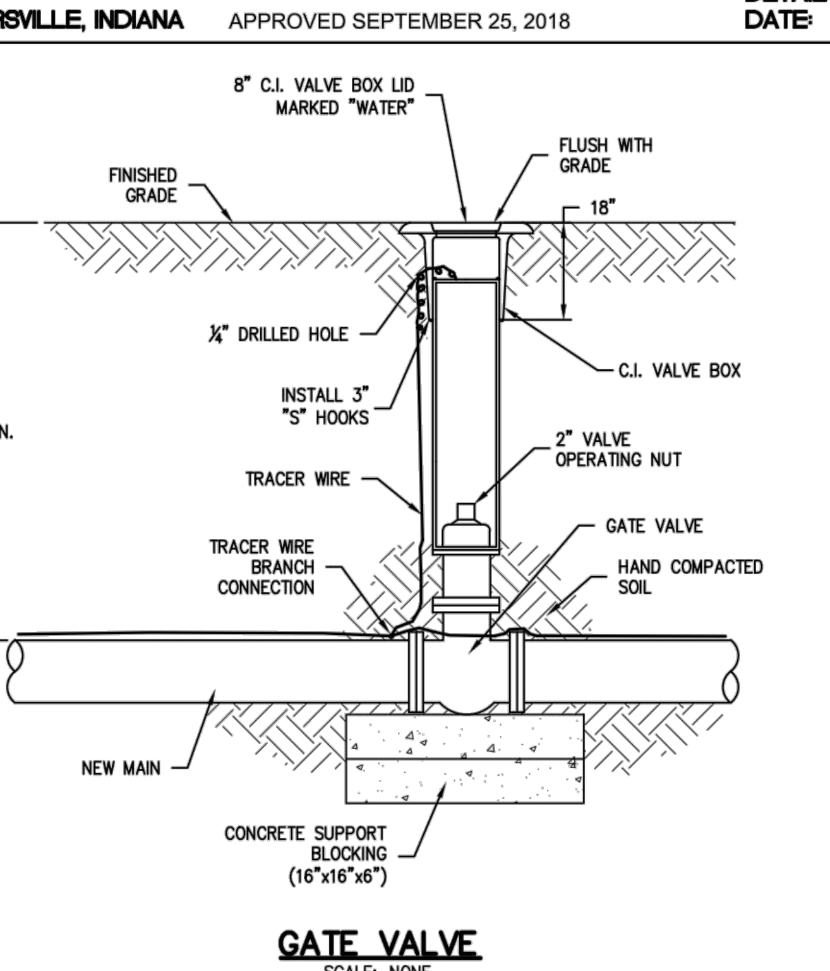
TOWN OF BARGERSVILLE, INDIANA APPROVED SEPTEMBER 25, 2018
DETAIL NO. DW-09
DATE: JAN 2015



NOTE:
1. DUCTILE ONLY.

SPOT LOWERING
SCALE: NONE

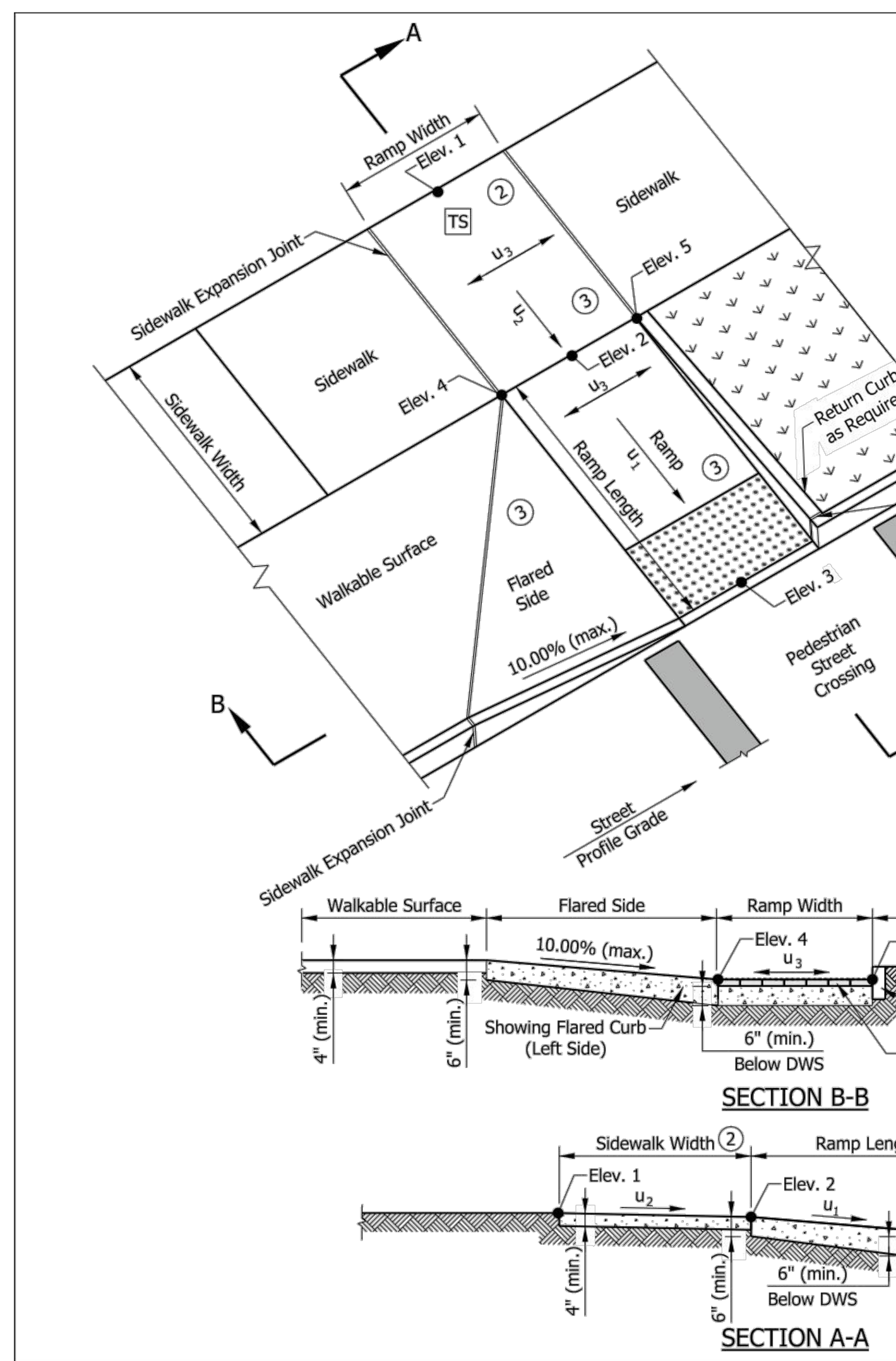
TOWN OF BARGERSVILLE, INDIANA APPROVED SEPTEMBER 25, 2018
DETAIL NO. DW-13
DATE: JAN 2015



GATE VALVE
SCALE: NONE

TOWN OF BARGERSVILLE, INDIANA APPROVED SEPTEMBER 25, 2018
DETAIL NO. DW-02
DATE: JAN 2015

DIRECTORY PATH : R:\Active\Center Grove Community School Corporation\Black Box\Design\CAD\Plans
FILENAME : 701 MISCELLANEOUS DETAILS.dwg
DATE/USER : 12/8/2022 8:20 AM / Dpeloso



Component Slope Equations:

Ramp u_1 = Running Slope = | Elev. 2 - Elev. 3 | / Ramp Length ≤ 8.33%

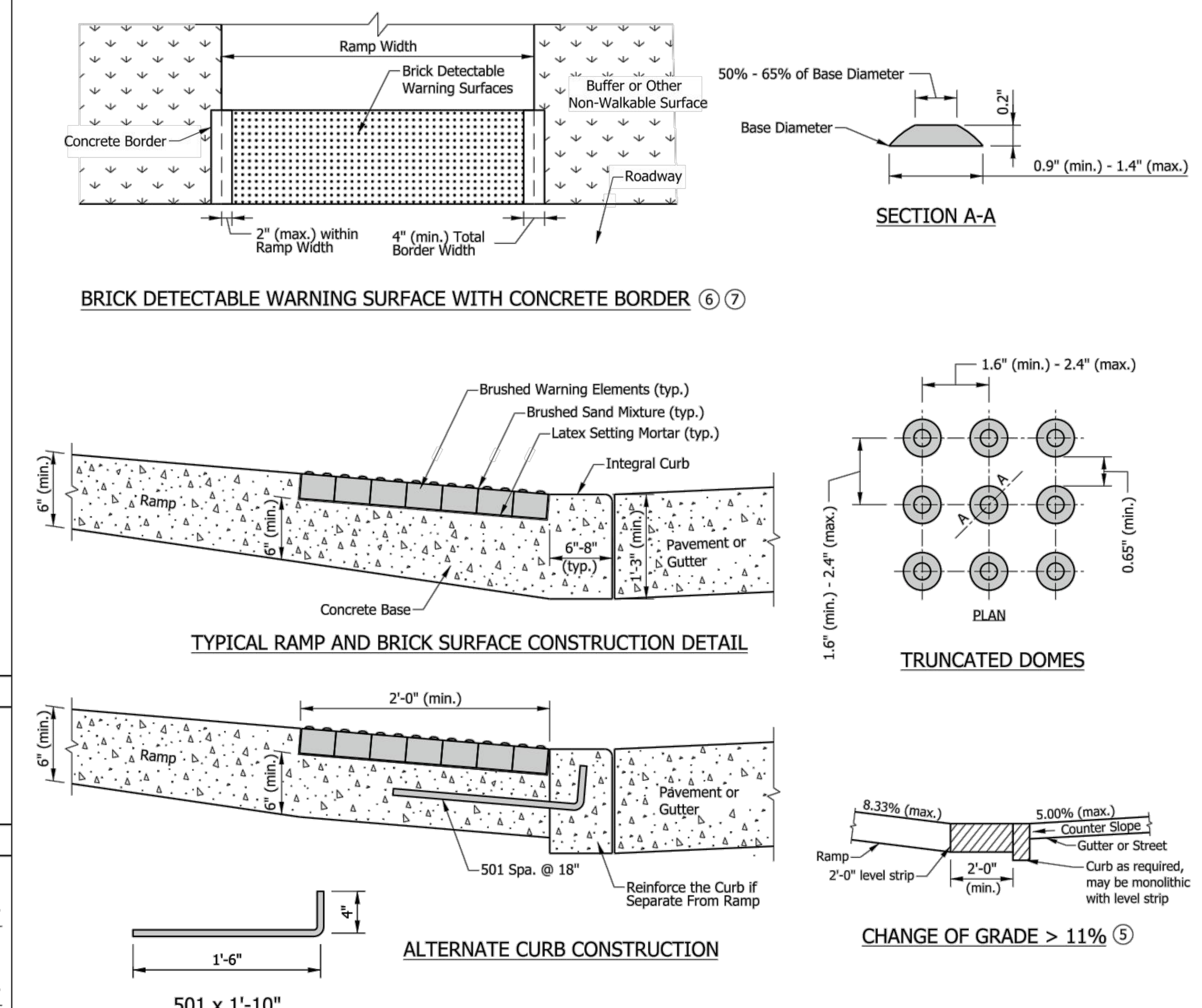
Turning Space u_2 = Running Slope = | Elev. 1 - Elev. 2 | / Sidewalk Width ≤ 2.00%

Ramp and Turning Space u_3 = Cross Slope = | Elev. 4 - Elev. 5 | / Ramp or Turning Space Width ≤ 2.00% (4)

NOTES:
(1) The bottom edge of the ramp and top of curb shall be flush with the edge of adjacent pavement and gutter line.
(2) The turning space shall have a minimum clear dimension of 4 ft x 4 ft. Where the turning space is constrained at the back of the sidewalk, the minimum clear dimension shall be 4 ft x 5 ft, with the 5-ft dimension in the direction of the ramp running slope. Where a tiered perpendicular curb ramp is used, a constrained turning space shall have a minimum clear dimension of 5 ft x 5 ft.
(3) Curb ramp surface shall be coarse broomed transverse to the running slope.
(4) See Standard Drawing E 604-SWCR-01 for cross slope exceptions.
5. See Standard Drawing E 604-SWCR-12, -13, and -14 for Detectable Warning Surface placement, configuration, and details.
6. See Standard Drawing E 604-CCSJ-01 for sidewalk expansion joint details.

LEGEND:
- Buffer or Other Non-Walkable Surface
- Ramp
- ▨ Detectable Warning Surface
- TS Turning Space

INDIANA DEPARTMENT OF TRANSPORTATION
PERPENDICULAR CURB RAMP COMPONENT DETAILS
SEPTEMBER 2018
STANDARD DRAWING NO. E 604-SWCR-04
ELIZABETH W. PHILLIPS REGISTERED No. 10200124 STATE OF INDIANA PROFESSIONAL ENGINEER
/s/ Elizabeth W. Phillips 03/29/18
DESIGN STANDARDS ENGINEER DATE
/s/ John Leckie 04/25/18
CHIEF ENGINEER DATE

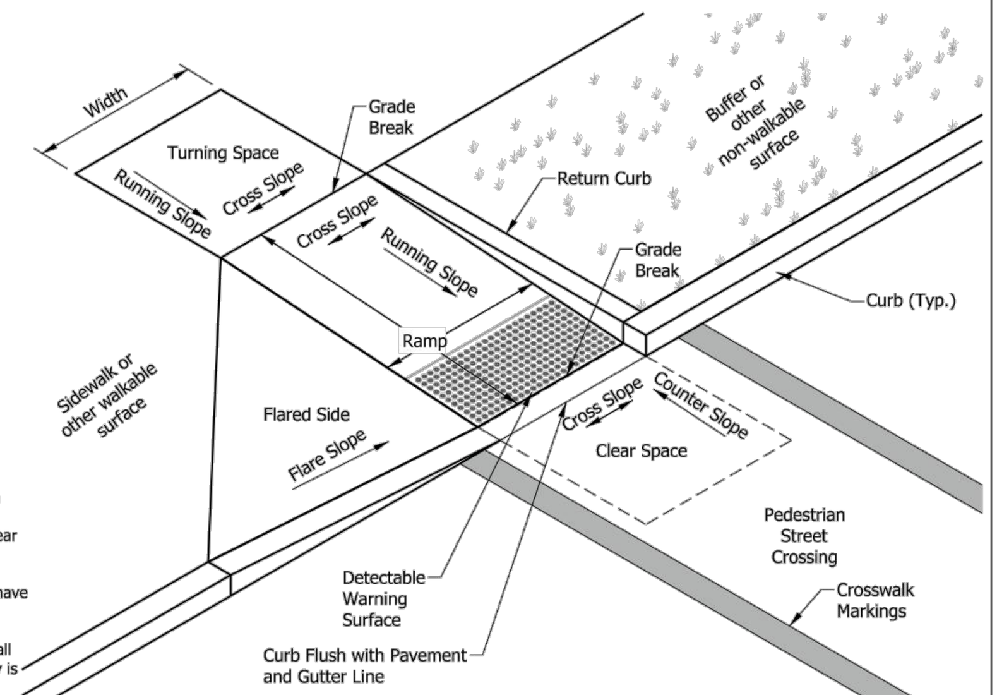


NOTES:
1. Detectable warning surface shall consist of truncated domes. Domes shall be aligned in a square or radial grid pattern with diameter and center-to-center spacing within the ranges specified.
2. The detectable warning surface may be field cut. Truncated dome spacing between adjacent panels shall be within the ranges specified.
3. The detectable warning surface shall contrast visually with adjacent surfaces, either light-on-dark or dark-on-light.
4. The detectable warning surface shall extend a minimum of 2 ft in the direction of pedestrian travel and extend the full width as shown. The detectable warning surface shall not be placed across a grade break.
(5) The maximum counter slope of the gutter or street at the bottom of the ramp shall be 5.00%. Where the algebraic difference between the running slope and the counter slope exceeds 11%, a 2-ft minimum level strip should be provided at the bottom of the ramp.
(6) Where a concrete border is used for forming, the border shall be cast monolithically with the curb ramp concrete. The concrete border shall not reduce the ramp width by more than 2 in. on each side.
(7) Where forming other than a concrete border is used, the edge restraint shall not encroach upon the ramp width.

INDIANA DEPARTMENT OF TRANSPORTATION
DETECTABLE WARNING SURFACE DETAILS
SEPTEMBER 2018
STANDARD DRAWING NO. E 604-SWCR-14
ELIZABETH W. PHILLIPS REGISTERED No. 10200124 STATE OF INDIANA PROFESSIONAL ENGINEER
/s/ Elizabeth W. Phillips 03/29/18
DESIGN STANDARDS ENGINEER DATE
/s/ John Leckie 04/25/18
CHIEF ENGINEER DATE

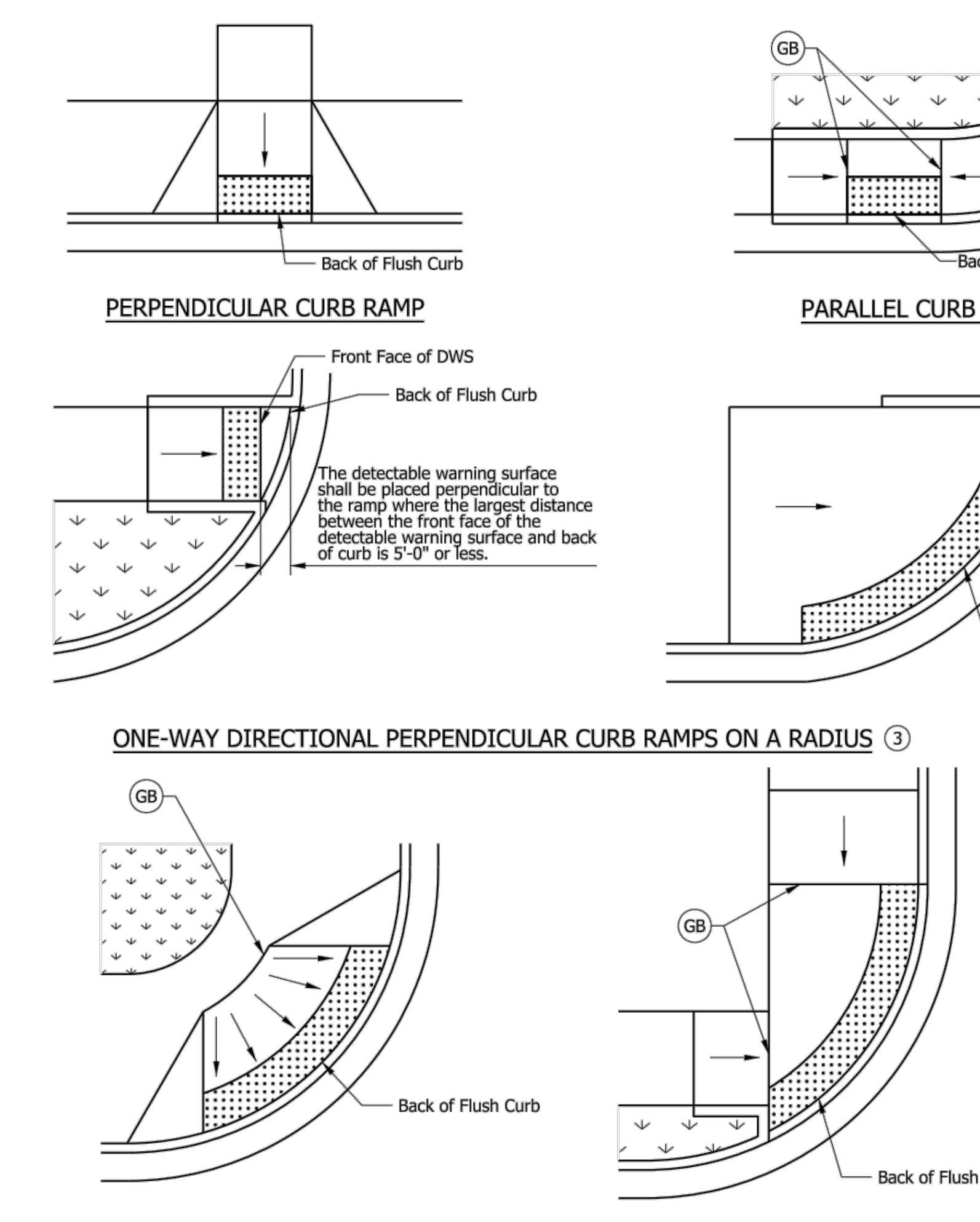
INDEX	
SHEET NO.	SUBJECT
1	Curb Ramp Drawing Index and General Notes
2-3	Perpendicular Curb Ramp Typical Placement
4	Perpendicular Curb Ramp Component Details
5	One-Way-Directional Perpendicular Curb Ramp Typical Placement
6	One-Way-Directional Perpendicular Curb Ramp Component Details
7	Parallel Curb Ramps Typical Placement
8	Parallel Curb Ramp Component Details
9	Blended Transition Curb Ramp, Depressed Curb Ramp and Diagonal Curb Ramp Typical Placement
10	Blended Transition Curb Ramp Component Details
11	Median Cut-Through and Median Perpendicular Curb Ramp Typical Placement
12-13	Detectable Warning Surface Placement and Configuration
14	Detectable Warning Surface Details

GENERAL NOTES:
1. All slopes are absolute rather than relative to the sidewalk or roadway grade. Slopes at least 0.50% less than the maximum are preferred.
2. Ramp or Blended Transition. A ramp or blended transition shall be used to lower or raise the sidewalk to connect with the street or highway.
3. Turning Space. A turning space shall be provided at the top of a perpendicular ramp, bottom of a parallel ramp, or where the pedestrian travel requires a change in direction. A common turning space may be shared by adjacent ramps. The turning space shall have a minimum clear dimension of 4 ft x 4 ft. Where the turning space is constrained at the back of the sidewalk by a curb, retaining wall, building, or feature over 2 inches in height, the minimum clear dimension shall be 4 ft x 5 ft, with the 5-ft dimension in the direction of the ramp running slope.
4. Flared Side. A flared side shall be used adjacent to a walkable surface. A flared side may be used adjacent to a non-walkable surface. A flared side shall have a maximum slope of 10.00% measured parallel to the back of the curb.
5. Return Curb. A return curb is placed perpendicular to the roadway curb. A return curb may be used adjacent to a non-walkable surface. A return curb shall not be used adjacent to a walkable surface. The return curb may be omitted where the non-walkable surface is flared and the curb adjacent the roadway is tapered to meet the flush curb at the bottom of the ramp.
6. Clear Space. A clear space shall be provided beyond the bottom grade break of a curb ramp wholly contained within the crosswalk and wholly outside the parallel vehicular travel path. The clear space shall have a minimum clear dimension of 4 ft x 4 ft.
7. Detectable Warning Surface. A detectable warning surface shall consist of truncated domes and be placed at each street, highway, or railroad crossing. The detectable warning surface shall extend a minimum of 2 ft in the direction of pedestrian travel and be placed the entire width of a ramp, blended transition, or turning space.
8. Running Slope. The running slope of a ramp, blended transition, or turning space shall be measured parallel to the direction of pedestrian travel.
   a. A running slope of 2.00% or less is considered level.
   b. A ramp shall have a maximum running slope of 8.33% but shall not require a ramp length to exceed 15 ft.
   c. A blended transition shall have a maximum running slope of 5.00%.
   d. A turning space shall have a maximum running slope of 2.00%.
9. Width. Unless otherwise noted, minimum width of a ramp, blended transition, or turning space, excluding flared sides or return curb, shall be 4 ft.
10. Grade Break. A grade break at the top and bottom of a ramp, blended transition, or turning space shall be perpendicular to the running slope. Grade breaks shall not be within the ramp, blended transition, turning space, or detectable warning surface. Grade breaks shall be flush. Vertical discontinuities shall not be greater than 1/2 in. Where a discontinuity is greater than 1/4 in. the surface shall be beveled with a slope not steeper than 1V:2H.
11. Cross Slope Exceptions. The cross slope of a ramp, blended transition, or turning space shall be measured perpendicular to the direction of pedestrian travel.
   a. The maximum cross slope at a pedestrian street crossing without posted yield or stop control shall be 5.00%.
   b. The maximum cross slope at a pedestrian street crossing with posted yield or stop control shall be 2.00%.
   c. The maximum cross slope at a midblock crossing shall be the established grade of the adjacent roadway.
12. Counter Slope. A counter slope is the cross slope of the gutter or street adjacent the running slope of the ramp, blended transition, or turning space. See Standard Drawing E 604-SWCR-14 for counter slope details.
13. Objects such as a utility cover, vault frame, and grating shall be placed outside the curb ramp.
14. Curb ramps shall be placed within the marked crosswalk area.
15. Drainage inlets should be located uphill from a curb ramp to prevent ponding in the path of pedestrian travel.



TYPICAL CURB RAMP COMPONENTS

INDIANA DEPARTMENT OF TRANSPORTATION
CURB RAMP DRAWING INDEX AND GENERAL NOTES
SEPTEMBER 2018
STANDARD DRAWING NO. E 604-SWCR-01
ELIZABETH W. PHILLIPS REGISTERED No. 10200124 STATE OF INDIANA PROFESSIONAL ENGINEER
/s/ Elizabeth W. Phillips 03/20/18
DESIGN STANDARDS ENGINEER DATE
/s/ John Leckie 04/25/18
CHIEF ENGINEER DATE



LEGEND:
- Buffer or Other Non-Walkable Surface
- ▨ Detectable Warning Surface (DWS)
- Ramp
- (GB) Grade Break

NOTES:
1. A detectable warning surface shall be placed at each street, highway, or railroad crossing. See Standard Drawing E 604-SDWK-03 for a detectable warning surface placement at a sidewalk driveway crossing.
2. The detectable warning surface shall extend a minimum of 2 ft in the direction of pedestrian travel and extend the full width as shown. The detectable warning surface shall not be placed across a grade break.
(3) Where the distance from the face of the detectable warning surface is 5 ft or less from the back of curb, the detectable warning surface shall be placed perpendicular to the ramp. Where the distance from the face of the detectable warning surface is more than 5 ft from the back of curb, the detectable warning surface shall be placed at the back of curb as shown or in an alternate placement configuration. See Standard Drawing E 604-SWCR-13 for alternate detectable warning surface placement.
(4) The detectable warning surface on a parallel curb ramp shall be placed on the turning space at the flush transition between the street and turning space at the back of curb.
(5) The detectable warning surface on a blended transition or depressed corner shall be placed at the back of curb as shown or in an alternate placement configuration. See Standard Drawing E 604-SWCR-13 for alternate detectable warning surface placement.
6. See Standard Drawing E 604-SWCR-14 for detectable warning surface details.

INDIANA DEPARTMENT OF TRANSPORTATION
DETECTABLE WARNING SURFACE PLACEMENT AND CONFIGURATION
SEPTEMBER 2018
STANDARD DRAWING NO. E 604-SWCR-12
ELIZABETH W. PHILLIPS REGISTERED No. 10200124 STATE OF INDIANA PROFESSIONAL ENGINEER
/s/ Elizabeth W. Phillips 03/29/18
DESIGN STANDARDS ENGINEER DATE
/s/ John Leckie 04/25/18
CHIEF ENGINEER DATE

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

SHEET 701

MISCELLANEOUS DETAILS
CG HIGH SCHOOL BLACK BOX THEATER

JOB No. .
DATE FEBRUARY 07, 2023
DRAWN DEP
CHECKED GJI
DESIGNED DJM
APPR. GJI

GREGORY J. ILKO REGISTERED No. 10300059 STATE OF INDIANA PROFESSIONAL ENGINEER
PRELIMINARY NOT FOR CONSTRUCTION
[illegible]

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

SHEET 701

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\PARKING LOTS

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 COURSE AGGREGATE: SOUND, ANGULAR CRUSHED STONE, CRUSHED OR UNCRUSHED GRAVEL, OR CRUSHED SLAG, SAND, STONE, OR SLAG SCREENINGS. COARSE AGGREGATES SHALL BE CLASS A OR B AND CONFORM TO I.N.D.O.T. STANDARDS SPECIFICATIONS SECTION 903.
        - D. COARSE AGGREGATE FOR SURFACE AND BINDER MIXTURES: CRUSHED STONE, CRUSHED GRAVEL, CRUSHED SLAB, AND SHARP EDGED NATURAL SAND. SURFACE COARSE AGGREGATES SHALL BE CLASS A AND CONFORM TO I.N.D.O.T. STANDARD SPECIFICATIONS SECTION 903.
        - E. ASPHALT CEMENT: PETROLEUM ASPHALT CEMENT, AP 5 WITH PENETRATION OF 60-70 OR VISCOSITY GRADED ASPHALT CEMENT AC-20 CONFORMING TO THE MOST CURRENT I.N.D.O.T. STANDARD SPECIFICATION.
        - F. PRIME COAT: MEDIUM-CURE LIQUID ASPHALT OR ASPHALT EMULSION CONFORMING TO THE MOST CURRENT I.N.D.O.T. STANDARD SPECIFICATION.
        - G. TACK COAT: RAPID-CURE LIQUID ASPHALT OR ASPHALT EMULSION CONFORMING TO THE MOST CURRENT I.N.D.O.T. STANDARD SPECIFICATION.
        - H. LANE MARKING PAINT: CHLORINATED RUBBER-ALKYD TYPE, AASHTO M248 (FS TT-P-115), TYPE III.
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\WHITE\BLUE
     - I) DO NOT APPLY TRAFFIC AND LANE MARKING PAINT UNTIL LAYOUT AND PLACEMENT HAS BEEN VERIFIED WITH ARCHITECT/ENGINEER.
     - II) APPLY PAINT WITH MECHANICAL EQUIPMENT TO PRODUCE UNIFORM STRAIGHT EDGES. APPLY IN TWO COATS AT MANUFACTURER'S RECOMMENDED RATES.
8. FIELD QUALITY CONTROL
   - A. TESTING AND INSPECTION SERVICE:
     - I) OWNER SHALL EMPLOY A TESTING LABORATORY TO PERFORM PAVEMENT TESTING AND INSPECTION SERVICE FOR QUALITY CONTROL DURING PAVING OPERATIONS.
     - II) TESTING SERVICE SHALL HAVE REPRESENTATIVE PRESENT TO OBSERVE AND PERFORM TESTS AT ALL TIMES PAVING WORK IS IN PROGRESS.
   - B. GENERAL: TESTING SERVICE REPRESENTATIVE SHALL TAKE A MINIMUM OF TWO SAMPLES PER LIFT OF BITUMINOUS AGGREGATE MIX EACH DAY BEFORE PAVING OPERATION. LABORATORY TEST SHALL BE PERFORMED ON THESE SAMPLES TO DETERMINE AGGREGATE GRADATION AND ASPHALT CONTENT.
     - I) TEST IN-PLACE COMPACTED BITUMINOUS AGGREGATE MIX COURSES FOR COMPLIANCE WITH REQUIREMENTS FOR THICKNESS, DENSITY AND AIR VOIDS AND SURFACE SMOOTHNESS. REPAIR OR REMOVE AND REPLACE UNACCEPTABLE PAVING AS DIRECTED BY ENGINEER.
     - II) A TEST SECTION AT A MINIMUM SIZE OF 100'X12' SHALL BE PLACED AT A LOCATION AS DIRECTED BY THE COUNTY PRIOR TO FULL PRODUCTION FOR EACH TYPE OF MIX. THE TEST SECTION SHALL BE COMPACTED TO DETERMINE A TARGET DENSITY FOR THE REMAINDER OF THE PAVEMENT.
   - C. THICKNESS: IN-PLACE COMPACTED THICKNESS WILL NOT BE ACCEPTABLE IF EXCEEDING FOLLOWING ALLOWABLE VARIATION FROM REQUIRED THICKNESS:
     AGGREGATE BASE COURSE: ½", PLUS OR MINUS
     BASE COURSE: ½", PLUS OR MINUS
     BINDER COURSE: ¼", PLUS OR MINUS
     SURFACE COURSE: ¼", PLUS OR MINUS
     - I) A MINIMUM OF TWO PAVEMENT CORES PER COMPACTED LIFT SHALL BE TAKEN. CORES ARE TO BE TAKEN AT LOCATIONS AND AT TIMES OF DAY AS DIRECTED BY THE TESTING SERVICE. THE FOLLOWING TESTS SHALL BE PERFORMED BY THE TESTING SERVICE, ON EACH PAVEMENT CORE:
     - II) A TEST SECTION AT A MINIMUM SIZE OF 100'X12' SHALL BE PLACED AT A LOCATION AS DIRECTED BY THE COUNTY PRIOR TO FULL PRODUCTION FOR EACH TYPE OF MIX. THE TEST SECTION SHALL BE COMPACTED TO DETERMINE A TARGET DENSITY OF THE REMAINDER OF THE PAVEMENT.
   - D. PAVEMENT THICKNESS
     DENSITY
     AIR VOIDS
     - I) TESTING SERVICE SHALL SUBMIT CERTIFIED RESULTS TO THE OWNER AND ARCHITECT/ENGINEER WITHIN 72 HOURS AFTER TESTS ARE MADE, WITH THEIR COMMENTS AND RECOMMENDATIONS FOR ACTION.
     - II) PAVEMENT WHICH FAILS TO COMPLY WITH APPROVED JOB MIX FORMULA SHALL BE REPLACED AS DIRECTED BY THE ARCHITECT/ENGINEER.
   - E. SURFACE SMOOTHNESS: TEST FINISHED SURFACE FOR SMOOTHNESS, USING 10' STRAIGHTEDGE APPLIED PARALLEL WITH, AND AT RIGHT ANGLES TO CENTERLINE OF PAVED AREA. SURFACE WILL NOT BE ACCEPTABLE IF EXCEEDING THE FOLLOWING TOLERANCES FOR SMOOTHNESS.
     AGGREGATE BASE COURSE SURFACE:1/4"
     BASE COURSE SURFACE: 1/4"
     BINDER COURSE SURFACE: 1/8"
     WEARING COURSE SURFACE: 1/8"
     - I) CHECK SURFACED AREAS AT INTERVALS AS DIRECTED BY TESTING SERVICE.
   - F. DENSITY TESTS: DENSITY TESTS SHALL BE MADE AT EACH LIFT. TEST SHALL BE AS FOLLOWS:
     - I) TESTS WILL BE REQUIRED AT VARIOUS TIMES AND LOCATIONS FOR SUBGRADE AND BASE COURSES FOR ASPHALT PAVING AREAS.
   - G. TESTING SERVICE SHALL SUBMIT CERTIFIED RESULTS TO THE OWNER AND ENGINEER WITHIN 72 HOURS AFTER TESTS ARE MADE WITH THEIR COMMENTS AND RECOMMENDATIONS FOR ACTION.
     - I) SUBGRADE SHALL BE PREPARED IN ACCORDANCE WITH THE MOST CURRENT I.N.D.O.T. STANDARD SPECIFICATION. NO TRAFFIC SHALL BE PERMITTED ON THE PREPARED SUBGRADE PRIOR TO PAVING.
     - II) SEE SITE GRADING, UNDER THE 'EARTHWORK' SECTION FOR ADDITIONAL COMPACTION REQUIREMENTS.
9. APPLICATION
   - A. GRADING: DO ANY NECESSARY GRADING IN ADDITION TO THAT PERFORMED IN ACCORDANCE WITH EARTHWORK SECTION TO BRING SUBGRADES, AFTER FINAL COMPACTION, TO THE REQUIRED GRADES AND SECTIONS FOR SITE IMPROVEMENTS.
   - B. PREPARATION OF SUBGRADE: REMOVE SPONGY AND OTHERWISE UNSUITABLE MATERIAL AND REPLACE WITH STABLE MATERIAL. NO TRAFFIC WILL BE ALLOWED ON PREPARED SUBGRADE PRIOR TO PAVING.
   - C. COMPACTION OF SUBGRADE: THE FIRST 6 INCHES BELOW THE SUBGRADE SHALL BE COMPACTED TO AT LEAST 100% OF THE MAXIMUM DRY DENSITY AS DETERMINED BY THE PROVISIONS OF AASHO T-99. WATER SHALL BE PREVENTED FROM STANDING ON THE COMPACTED SUBGRADE.
   - D. UTILITY STRUCTURES: CHECK FOR CORRECT ELEVATION OF ALL MANHOLE COVERS, VALVE BOXES AND SIMILAR STRUCTURES LOCATED WITHIN AREAS TO BE PAVED, AND MAKE, OR HAVE MADE, ANY NECESSARY ADJUSTMENTS IN SUCH STRUCTURES.
   - E. PLACING CONCRETE
     1. SUBGRADE: PLACE CONCRETE ONLY ON A MOIST, COMPACTED SUBGRADE OR BASE FREE FROM LOOSE MATERIAL. PLACE NO CONCRETE ON A MUDDY OR FROZEN SUBGRADE.
     2. FORMS: ALL FORMS SHALL BE FREE FROM WARP, TIGHT ENOUGH TO PREVENT LEAKAGE AND SUBSTANTIAL ENOUGH TO MAINTAIN THEIR SHAPE AND POSITION WITHOUT SPRINGING OR SETTLING, WHEN CONCRETE IS PLACED. FORMS SHALL BE CLEAN AND SMOOTH IMMEDIATELY BEFORE CONCRETING.
     3. PLACING CONCRETE: CONCRETE SHALL BE DEPOSITED SO AS TO REQUIRE AS LITTLE REHANDLING AS PRACTICABLE. WHEN CONCRETE IS TO BE PLACED AT AN ATMOSPHERIC TEMPERATURE OF 35 DEGREES F. OR LESS, THE MOST CURRENT I.N.D.O.T. STANDARD SPECIFICATIONS SHALL BE FOLLOWED.
   - F. CONCRETE CURB
     1. EXPANSION JOINTS: SHALL BE 1/2 INCH THICK PREMOULDED AT ENDS OF ALL RETURNS AND AT A MAXIMUM SPACING OF 100 FEET.
     2. CONTRACTION JOINTS UNLESS OTHERWISE PROVIDED, CONTRACTION JOINTS SHALL BE SAWED JOINTS SPACED 10 FEET ON CENTER.
     3. FINISH: TAMP AND SCREED CONCRETE AS SOON AS PLACED, AND FILL ANY HONEY COMBED PLACES. FINISH SQUARE CORNERSTONE 1/4 INCH RADIUS AND OTHER CORNERS TO RADII SHOWN.
   - G. CONCRETE WALKS AND EXTERIOR STEPS
     1. SLOPES: PROVIDE ¼ INCH PER FOOT CROSS SLOPE. MAKE ADJUSTMENTS ON SLOPES AT WALK INTERSECTIONS AS NECESSARY TO PROVIDE PROPER DRAINAGE.
     2. DIMENSIONS: WALKS AND STEPS SHALL BE ONE COURSE CONSTRUCTION AND OF WIDTHS AND DETAILS SHOWN ON THE DRAWINGS.
     3. FINISH: SCREED CONCRETE AND TROWEL WITH A STEEL TROWEL TO A HARD DENSE SURFACE AFTER SURFACE WATER HAS DISAPPEARED. APPLY MEDIUM BROOM FINISH AND SCRIBE TRANSVERSE JOINTS AT 6 FOOT SPACING. PROVIDE ½ INCH EXPANSION JOINTS WHERE SIDEWALKS INTERSECT, AND AT A MAXIMUM SPACING OF 48 FEET BETWEEN EXPANSION JOINTS.
   - H. CURING CONCRETE FOR WALKS AND CURBS: EXCEPT AS OTHERWISE SPECIFIED, CURE ALL CONCRETE BY ONE OF THE METHODS DESCRIBED IN THE MOST CURRENT I.N.D.O.T. STANDARD SPECIFICATION.
   - I. BITUMINOUS PAVEMENT: HOT MIX ASPHALT PAVEMENT SHALL BE AS SPECIFIED IN THE MOST CURRENT I.N.D.O.T. STANDARD SPECIFICATION. PAVING WILL NOT BE PERMITTED DURING UNFAVORABLE WEATHER OR THEN THE TEMPERATURE IS 40 DEGREES F. AND FALLING.
   - J. COMPACTED AGGREGATE SUBBASE: THE THICKNESS SHOWN ON THE DRAWINGS IS THE MINIMUM THICKNESS OF THE FULL COMPACTED SUBBASE. COMPACTION SHALL BE ACCOMPLISHED BY ROLLING WITH A SMOOTH WHEELED ROLLER WEIGHING 8 TO 10 TONS. COMPACT TO 95% COMPACTION USING STANDARD TESTING PROCEDURES. ALONG CURBS, HEADERS AND WALLS AND AT ALL PLACES NOT ACCESSIBLE TO THE ROLLER, THE AGGREGATE MATERIAL SHALL BE TAMPED WITH MECHANICAL TAMPERS OR WITH APPROVED HAND TAMPERS.
   - K. CONCRETE RAMPS
     1. CONCRETE RAMPS FOR THE DISABLED SHALL BE REQUIRED AS SPECIFIED IN THE PLANS AND SHALL CONFORM WITH CURRENT SPECIFICATIONS ESTABLISHED BY THE AMERICAN DISABILITIES ACT (ADA), SECTION 4.7, "CURB RAMPS."
     2. THE CONCRETE RAMP SHALL BE FLUSH AND FREE OF ABRUPT CHANGES WITH SIDEWALKS, GUTTERS OR STREETS, AND PROVIDE A MAXIMUM SLOPE OF 1:12.
     3. THE MINIMUM WIDTH OF A CONCRETE RAMP SHALL BE (48) INCHES EXCLUSIVE OF FLARED SIDES.
     4. SIDES OF CONCRETE RAMPS SHALL HAVE FLARED SIDES AS SHOWN IN THE PLANS.

STORM SEWER SYSTEMS

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

WATER LINE SYSTEM

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

SANITARY SEWER SYSTEMS

1. SCOPE OF WORK
   - A. THE WORK UNDER THIS SECTION INCLUDES ALL SANITARY SEWERS, MANHOLES, CLEANOUTS AND RELATED ITEMS INCLUDING EXCAVATING AND BACKFILLING, NECESSARY TO COMPLETE THE WORK SHOWN IN THE DRAWINGS, STARTING OUTSIDE THE BUILDING WALLS. THE END OF SEWERS SHALL BE TIGHTLY PLUGGED OR CAPPED AT THE TERMINAL POINTS, ADJACENT TO THE BUILDING DRAIN AS SPECIFIED IN THE PLUMBING SPECIFICATIONS AND/OR ARCHITECTURAL DRAWINGS.
2. MATERIALS
   - A. SANITARY SEWERS
     1. ALL GRAVITY PLASTIC SEWER PIPE FITTINGS SHALL CONFORM TO ASTM D3034 WITH A CELL CLASSIFICATION OF 12454-B OR 12454-C. FLEXIBLE GASKETED COMPRESSION JOINTS SHALL BE USED FOR PVC & PVC TRUSS PIPE. NO SOLVENT CEMENT JOINTS SHALL BE ALLOWED.
     2. ABS SEWER PIPE AND FITTINGS SHALL CONFORM TO ASTM D2680 LATEST REVISION.
     3. TRACER WIRE SHALL BE INSTALLED WITH ALL NEW SANITARY PIPE.
   - B. MANHOLES
     1. PRECAST REINFORCED CONCRETE MANHOLE SECTIONS AND STEPS SHALL CONFORM TO ASTM C-478 LATEST REVISION. EXTERIOR OF THE MANHOLE SHALL BE WATERPROOFED WITH BISMATIC MATERIAL.
     2. CASTINGS SHALL BE OF UNIFORM QUALITY, FREE FROM BLOW HOLES, POROSITY, HARD SPOTS, SHRINKAGE DISTORTION OR OTHER DEFECTS. THEY SHALL BE SMOOTH AND WELL-CLEANED BY SHOT-BLASTING OR BY SOME OTHER APPROVED METHOD. THEY SHALL BE COATED WITH ASPHALT PAINT WHICH SHALL RESULT IN A SMOOTH COATING, TOUGH AND TENACIOUS WHEN COLD, NOT TACKY OR BRITTLE. THEY SHALL BE GRAY IRON MEETING ASTM A-48 LATEST REVISION. MANHOLE COVERS FOR SANITARY SEWER SHALL BE NEENAH TYPE R-1077-A W/R-1712-B-SP FRAME W/SELF-SEALING APPLICATION.
     3. JOINTS: MANHOLE SECTIONS SHALL BE JOINED WITH A NOMINAL ½ INCH SIZE BUTYL RUBBER BASE GASKET MATERIAL, CONFORMING TO AASHTO M-198 AND FEDERAL SPECIFICATION SS-S-210A. JOINT CONFORMS TO ASTM C-443.
     4. MANHOLES SHALL INCLUDE STEPS. SANITARY SEWER STANDARDS REVISIONS SHALL BE THAT STEPS ARE TO BE POLYPROPYLENE COATED STEEL REINFORCING OR AN APPROVED NON-CORROSIVE FIBERGLASS MATERIAL. THE COPOLYMER POLYPROPYLENE SHALL MEET THE REQUIREMENTS OF ASTMD-4101 WITH DEFORMED ⅜ INCH DIAMETER OR LARGER REINFORCING STEEL CONFORMING TO ASTM A-615, GRADE 60. STEPS SHALL BE A MAXIMUM OF 24 INCHES FROM TOP, 24 INCHES FROM BOTTOM AND 16 INCHES SPACING BETWEEN.
   - C. 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.
   - D. CASING
     1. SANITARY SEWERS CONSTRUCTED WITH POLYVINYL CHLORIDE (PVC) AND INSTALLED UNDER RAILROADS SHALL BE CASED IN CONFORMANCE WITH AWWA STANDARD C900-89, STANDARD FOR POLYVINYL CHLORIDE (PVC) PRESSURE PIPE, 4 IN. THROUGH 12 IN. FOR WATER DISTRIBUTION, APPENDIX A.
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. FLOW CHANNELS:
     THE FLOW CHANNELS WITHIN MANHOLES SHALL BE AN INTEGRAL PART OF THE PRECAST BASE. THE CHANNELS SHALL BE SHAPED AND FORMED FOR A CLEAN TRANSITION WITH PROPER HYDRAULICS TO ALLOW THE SMOOTH CONVEYANCE OF FLOW THROUGH THE MANHOLE. THE BENCH WALL SHALL BE FORMED TO THE CROWN OF THE INLET AND OUTLET PIPES TO FORM A "U" SHAPED CHANNEL. THE BENCH WALL SHALL SLOPE BACK FROM THE CROWN AT ½ INCH PER FOOT TO THE MANHOLE WALL.
   - I. LEAKAGE TESTING:
     THE CONTRACTOR SHALL FURNISH THE NECESSARY EQUIPMENT TO TEST SEWERS FOR INFILTRATION. ALL SANITARY SEWER GRAVITY LINES, UPON COMPLETION, SHALL BE REQUIRED TO PASS ONE OF THE FOLLOWING TESTS:
   - J. HYDROSTATIC TEST:
     A HYDROSTATIC TEST SHALL BE PERFORMED WITH A MINIMUM OF TWO (2) FEET OF POSITIVE HEAD. THE RATE OF EXFILTRATION OR INFILTRATION SHALL NOT EXCEED TWO HUNDRED (200) GALLONS PER INCH OF PIPE DIAMETER PER LINEAR MILE PER DAY.
   - K. LOW PRESSURE AIR TEST:
     A LOW PRESSURE AIR TEST SHALL BE CONDUCTED IN ACCORDANCE WITH ASTM F1417, STANDARD TEST METHOD FOR INSTALLATION ACCEPTANCE OF PLASTIC GRAVITY SEWER LINES USING LOW PRESSURE AIR, FOR PLASTIC PIPE.
   - L. ALL SANITARY FORCE MAIN LINES, UPON COMPLETION, SHALL BE REQUIRED TO PASS A LEAKAGE TEST CONDUCTED IN ACCORDANCE WITH AWWA STANDARD C605-94, AWWA STANDARD FOR UNDERGROUND INSTALLATION OF POLYVINYL CHLORIDE (PVC) PRESSURE PIPE AND FITTINGS FOR WATER.
   - M. ALL SANITARY SEWER MANHOLES SHALL ALSO BE AIR TESTED IN ACCORDANCE WITH ASTM C1244-93, STANDARD TEST METHOD FOR CONCRETE SEWER MANHOLES BY NEGATIVE AIR PRESSURE (VACUUM) TEST.
   - N. FLUSHING SEWERS:
     FLUSH ALL SANITARY SEWERS EXCEPT BUILDING SEWERS WITH WATER TO OBTAIN FREE FLOW THROUGH EACH LINE. REMOVE ALL SILT AND TRASH FROM APPURTENANCES JUST PRIOR TO ACCEPTANCE OF WORK.
   - O. 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.
   - P. 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.
   - Q. 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.
   - R. 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.
   - S. 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 800

SPECIFICATIONS

CG HIGH SCHOOL BLACK BOX THEATER

JOB No.	.	DRAWN DEP	CHECKED GJI
DATE	FEBRUARY 07, 2023	DESIGNED DJM	APPR. GJI

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

PRELIMINARY
NOT FOR CONSTRUCTION

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

SHEET 800

DIRECTORY PATH : R:\Active\Center Grove Community School Corporation\Black Box\Design\CAD\Plans
FILENAME : 800 SPECIFICATIONS.dwg
DATE/USER : 1/20/2023 3:20 PM / Dpeloso