DEPARTMENT OF PLANNING AND TRANSPORTATION

DOWNTOWN CURB RAMP IMPROVEMENTS, PHASE II

Gross Length: N/A
Net Length: N/A

Maximum Grade: N/A

PROJECT AREA

NTS

PROJECT LOCATION SHOWN BY

PROJECT LOCATION MAP
CITY OF BLOOMINGTON, MONROE COUNTY

INDIANA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS CURRENT EDITION TO BE USED WITH THESE PLANS AND ANY SUPPLEMENTS THEREOF

PREPARED BY:

EAGLE RIDGE
CIVIL ENGINEERING SERVICES, LLC

1321 Laurel Oak Drive
Avon, Indiana 46123
(317)370-9672

MICHAEL J KNIS
REGISTERED
No.
10200108
STATE OF
INDIANA
PROFESSIONAL ENGINEER

PLANS PREPARED BY: EAGLE RIDGE CIVIL ENGINEERING SERVICES, LLC (317) 370-9672 PHONE NUMBER

CERTIFIED BY: Michael J Knis 2-15-2019 DATE

APPROVED FOR LETTING: DATE

SHEETS 1 of 16

PROJECT

DOWNTOWN CURB RAMP IMPROVEMENTS, PHASE II

UTILITIES

CABLE TELEVISION
COMCAST
ATTN: STEVE McARTOR
2450 SOUTH HENDERSON ST.
BLOOMINGTON, IN 47401
(812) 360-3090

GAS
VECTREN ENERGY
ATTN: EVAN HAMILTON
205 SOUTH MADISON
BLOOMINGTON, IN 47404
(812) 330-4061
ehamilton@vectren.com

FOR SERVICE RELOCATIONS
(48 HOUR NOTICE NEEDED)
ATTN:

DATA
BLOOMINGTON DIGITAL UNDERGROUND
ATTN.: RICK ROUTON
IT'S DEPT., CITY HALL
401 N. MORTON ST.
SUITE 150
BLOOMINGTON, IN 47404
(812) 349-3856

ELECTRIC
DUKE ENERGY (DISTRIBUTION)
ATTN: KERRY DUCKER
1100 WEST SECOND ST.
P.O.BOX 2448
BLOOMINGTON, IN 47403
(812) 337-3035

WATER
CITY OF BLOOMINGTON UTILITIES
ATTN.: MIKE HICKS
600 E. MILLER DRIVE
BLOOMINGTON, IN 47401
(812) 349-3623

STORM/SANITARY
CITY OF BLOOMINGTON UTILITIES
ATTN.: JANE FLEIG
600 E. MILLER DRIVE
BLOOMINGTON, IN 47401
(812) 349-3631

TELEPHONE/COMMUNICATIONS
AT & T
PRIMARY: JOHN HALL
(812) 334-4742
ALT: BRENT McCABE
4517 INDIANA BELL COURT
BLOOMINGTON, IN 47408
(812) 334-4521

SMITHVILLE TELEPHONE CO.
ATTN: CHAD HAWKINS
1600 W. TEMPERANCE ST.
ELLETTSVILLE, IN 47429-0729
(812) 935-2377
chad.hawkins@smithville.com
ALT: Service & Support
(812) 876-2211

CITY OF BLOOMINGTON
CITY OF BLOOMINGTON STREET DEPARTMENT
ATTN: MIKE STINSON
1981 S. HENDERSON STREET
BLOOMINGTON, IN 47401
(812) 349-3448
stinsonm@bloomington.in.gov

GENERAL NOTES

1. ALL REMOVAL ITEMS TO BE PAID AS CLEARING INCLUDING STRUCTURE REMOVAL, PIPE REMOVAL, PAVEMENT REMOVAL, SIDEWALK REMOVAL, ASPHALT REMOVAL, CURB REMOVAL, CURB & GUTTER REMOVAL, COMMON EXCAVATION, LINE REMOVAL, PAVEMENT MARKINGS REMOVAL.
2. ALL RADII ARE TO BACK OF CURB LINE.
3. ALL PLANS ARE BASED FROM GIS MAPPING WITH FIELD VERIFICATION, NOT SURVEY. ALL SITES ARE SHOWN BOTH WITH AND WITHOUT AERIAL BACKGROUND IN ORDER TO PROVIDE CONTEXT FOR EACH LOCATION, BUT THE AERIAL PHOTO HAS NOT BEEN ADJUSTED FOR FIT. ALL SIDEWALKS AND RAMPS ARE TO LINE UP WITH ADJACENT SEGMENTS, AND DIMENSIONS GIVEN SHALL GOVERN.
4. IN BUMPOUT AREAS WHERE EXISTING STREET PAVEMENT IS TO BECOME SIDEWALK, RAMP, OR SODDED AREAS, THE EXISTING CONCRETE OR ASPHALT IS TO BE FULLY REMOVED, COMPACTED AGGREGATES AND SUB-BASES MAY REMAIN IN PLACE IN AREAS UNDER SIDEWALK AND RAMPS, BUT THESE SHALL ALSO BE REMOVED IN AREAS TO BE SODDED. IN AREAS TO BE SODDED, THE FILL BELOW THE SOD SHALL BE COMPACTED TOPSOIL WITH A THICKNESS NO LESS THAN 16".
5. THE NARROW SPACE ALONGSIDE SIDEWALK REPLACEMENTS SHALL BE TOPSOILED AND SODDED AS NEEDED TO RESTORE THE AREA DISTURBED, BUT ARE GENERALLY NOT LABELLED ON THE PLANS TO REDUCE CLUTTER.
6. EXPANSION JOINTS ARE NOT SHOWN, BUT ARE REQUIRED PER STANDARD PRACTICE. LOCATIONS SHALL INCLUDE, BUT NOT BE LIMITED TO, EACH SIDEWALK END LIMIT, WHERE WALKS MEET TURNING SPACES, AND WHERE SIDEWALKS ABUT WALLS, STEPS, AND OTHER FIXED FEATURES.
7. UTILITIES ARE TO BE LOCATED AND DEPTHS VERIFIED IN ALL LOCATIONS WITH PROPOSED PIPES OR STRUCTURES. REPORT RESULTS TO ENGINEER IF ADJUSTMENTS ARE NEEDED TO THE PROPOSED WORK.
8. EXISTING MARKINGS, WHERE PRESENT AND IN CONFLICT, SHALL BE REMOVED WITH MINIMUM DAMAGE TO EXISTING PAVEMENT PRACTICABLE.

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REVISIONS

SHEET NO.	DATE	REVISED

GENERAL LEGEND (EXISTING SCREENED, PROPOSED IN BOLD)

- LIGHT POLE
- WATER VALVE
- INLETS
- HYDRANT
- TREES
- SIGN
- POWER POLE
- MANHOLE (STORM, SANITARY)
- TELECOM MANHOLES

MAINTENANCE OF TRAFFIC AND EROSION CONTROL ITEMS

- INDOT STANDARD DRUM WITH STEADY BURN LIGHTS
- (CF) TEMPORARY CONSTRUCTION FENCING, 48" MESH, ORANGE, ON TEMPORARY STANDS
- BARRICADE (TYPE III)
- CONSTRUCTION SIGNS (SHAPE PER MUTCD)
- TRAFFIC FLOW DIRECTION
- FLASHING ARROW SIGN
- (CI) INLET PROTECTION, CURB

PROPOSED ITEMS

- (B) BRICK PAVING (SEE DETAIL) ON CONCRETE BASE
- (CR) CURB CONCRETE REMOVE OR CURB AND GUTTER REMOVE
- (CL) CONSTRUCTION LIMITS
- (D) DRIVE REPLACEMENT PCCP FOR APPROACHES, 9" on COMPACTED AGGREGATE NO. 53's BASE (INCLUDES PAVEMENT REMOVAL)
- (F) CONCRETE SIDEWALK, 4"
- (P) ROAD PATCHING (PCC BASE PATCHING, 12", UNDER 165#/SYD HMA SURFACE, PAID AS HMA PATCHING, TYPE B) (SEE DETAIL) (INCLUDES PAVEMENT REMOVAL)

NOTE:
REMOVAL ITEMS OF SIDEWALK, PAVEMENT, AND PAVEMENT MARKINGS TO BE INCLUDED IN OTHER ITEMS.

- (R) MILLING, ASPHALT, 1.5", THEN ASPHALT FOR TACK COAT, AND RESURFACE WITH HMA SURFACE, TYPE B, PAID AS HMA PATCHING, TYPE B
- (13) CONCRETE CURB, OR CURB AND GUTTER, BARRIER, 6" OR VARIES TO MATCH EXISTING ADJACENT CURB HEIGHT
- (26) SODDING, NURSERY, ON 4" OF TOPSOIL
- (27) 3" MULCH HARDWOOD SHREDDED BARK OVER 4" TOPSOIL OR TOPSOIL THICKNESS, MINIMUM 16" IN AREAS OF EXISTING PAVEMENT/HARDSCAPE.
- (W24) TRANSVERSE MARKING, THERMOPLASTIC, CROSSWALKS AND STOP BARS, WHITE, 24"
- (YC) CURB PAINTING, YELLOW

RAMP/SIDEWALK GRAPHICS

- DETECTABLE WARNING SURFACE
- SLOPED PORTION OF RAMP (OR SIDEWALK TRANSITION) (POINTS DOWNHILL)
- TS TURNING SPACE - THIS AREA CANNOT EXCEED 2% IN ANY DIRECTION

MICHAEL J. MANIS REGISTERED No. 10200108 STATE OF INDIANA PROFESSIONAL ENGINEER

RECOMMENDED FOR APPROVAL Michael J. Manis 2-15-2019
DESIGN ENGINEER DATE

DESIGNED: MT DRAWN: SCS
CHECKED: BR CHECKED: BR

CITY OF BLOOMINGTON
PLANNING AND TRANSPORTATION

INDEX / GENERAL NOTES / LEGEND / UTILITY DATA

HORIZONTAL SCALE	
N/A	
VERTICAL SCALE	DESIGNATION
N/A	
SURVEY BOOK	SHEETS
	2 of 16
CONTRACT	PROJECT

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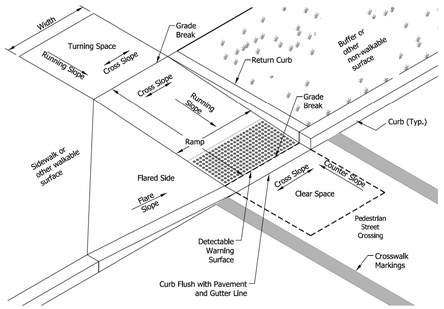
INDEX	
SHEET NO.	SUBJECT
1	Curb Ramp Drawing Index and General Notes
2-3	Perpendicular Curb Ramp Typical Placement
4	Perpendicular Curb Ramp Component Details
5	One-Way-Directional Perpendicular Curb Ramp Typical Placement
6	One-Way-Directional Perpendicular Curb Ramp Component Details
7	Parallel Curb 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 yield or stop control shall be 5.00%.
   b. The maximum cross slope at a pedestrian street crossing with 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

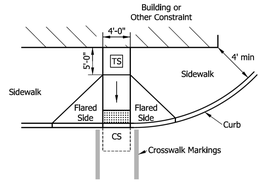
REGISTERED ELIZABETH W. PHILLIPS No. 10200124 STATE OF INDIANA PROFESSIONAL ENGINEER

/s/ Elizabeth W. Phillips 03/20/18
DESIGN STANDARDS ENGINEER DATE

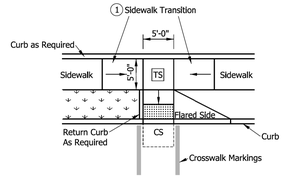
/s/ John Leckie 04/25/18
CHIEF ENGINEER DATE

NOTES:

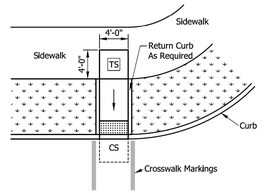
1. Where insufficient width between the curb and back of sidewalk prevent a standard perpendicular curb ramp running slope, a sidewalk transition may be used to lower the sidewalk grade. The sidewalk transition running slope shall not exceed 8.33%. See Standard Drawing Series E 604-SDWK for sidewalk details.
2. The turning space shall have a minimum clear dimension of 4 ft x 4 ft and a running slope of 2.00% maximum. 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.



PERPENDICULAR CURB RAMP
ADJACENT WALKABLE SURFACE



TIERED PERPENDICULAR CURB RAMP



PERPENDICULAR CURB RAMP
ADJACENT NON-WALKABLE SURFACE

LEGEND:

- Buffer or Other Non-Walkable Surface
- Ramp
- Detectable Warning Surface
- TS Turning Space
- CS Clear Space

INDIANA DEPARTMENT OF TRANSPORTATION

PERPENDICULAR CURB RAMP TYPICAL PLACEMENT

SEPTEMBER 2018

STANDARD DRAWING NO. E 604-SWCR-02

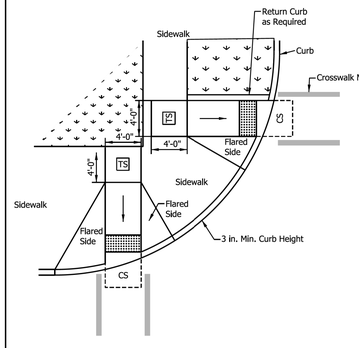
REGISTERED ELIZABETH W. PHILLIPS No. 10200124 STATE OF INDIANA PROFESSIONAL ENGINEER

/s/ Elizabeth W. Phillips 03/29/18
DESIGN STANDARDS ENGINEER DATE

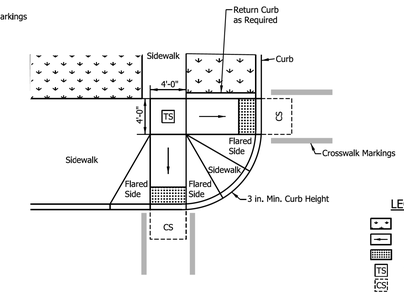
/s/ John Leckie 04/25/18
CHIEF ENGINEER DATE

NOTES:

1. The turning space shall have a minimum clear dimension of 4 ft x 4 ft and a running slope of 2.00% maximum. 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.



PAIRED PERPENDICULAR
CURB RAMPS AT LARGE RADIUS



PAIRED PERPENDICULAR
CURB RAMPS AT SMALL RADIUS

LEGEND:

- Buffer or Other Non-Walkable Surface
- Ramp
- Detectable Warning Surface
- TS Turning Space
- CS Clear Space

INDIANA DEPARTMENT OF TRANSPORTATION

PAIRED PERPENDICULAR CURB RAMPS TYPICAL PLACEMENT

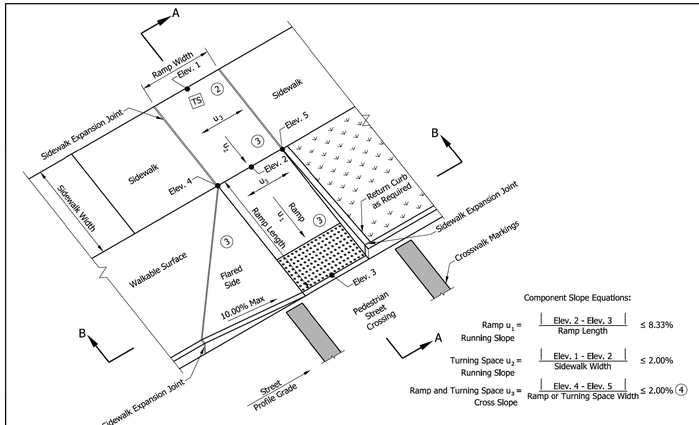
SEPTEMBER 2016

STANDARD DRAWING NO. E 604-SWCR-03

REGISTERED ELIZABETH W. PHILLIPS No. 10200124 STATE OF INDIANA PROFESSIONAL ENGINEER

/s/ Elizabeth W. Phillips 03/15/16
DESIGN STANDARDS ENGINEER DATE

/s/ Mark A. Miller 03/18/16
CHIEF ENGINEER DATE

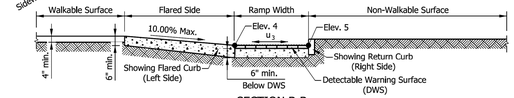


Component Slope Equations:

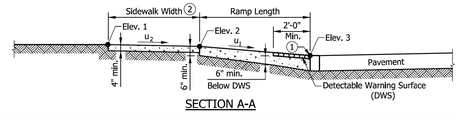
Ramp u_1 = $\frac{\text{Elev. 2 - Elev. 3}}{\text{Ramp Length}}$ ≤ 8.33%

Turning Space u_2 = $\frac{\text{Elev. 1 - Elev. 2}}{\text{Sidewalk Width}}$ ≤ 2.00%

Ramp and Turning Space u_3 = $\frac{\text{Elev. 4 - Elev. 5}}{\text{Ramp or Turning Space Width}}$ ≤ 2.00% (4)



SECTION B-B



SECTION A-A

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

REGISTERED ELIZABETH W. PHILLIPS 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

REGISTERED MICHAEL J. TANIS No. 10200108 STATE OF INDIANA PROFESSIONAL ENGINEER

RECOMMENDED FOR APPROVAL Michael J. Tanis 2-15-2019
DESIGN ENGINEER DATE

DESIGNED: MT DRAWN: SCS

CHECKED: BR CHECKED: BR

CITY OF BLOOMINGTON
PLANNING AND TRANSPORTATION

TYPICAL DETAILS

HORIZONTAL SCALE	
N/A	
VERTICAL SCALE	DESIGNATION
N/A	
SURVEY BOOK	SHEETS
	3 of 16
CONTRACT	PROJECT

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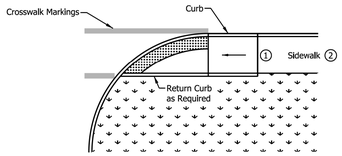
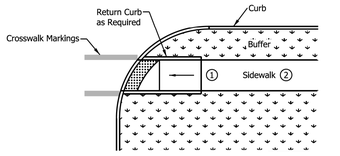


ONE-WAY DIRECTIONAL PERPENDICULAR CURB RAMP ADJACENT CURB



ONE-WAY DIRECTIONAL PERPENDICULAR CURB RAMP WITH BUFFER

NOTES:

1. A turning space is not required at the top of the ramp for a one-way directional perpendicular curb ramp.
2. Where there is no buffer between the sidewalk and curb the preferred minimum sidewalk width is 6 ft. Where a buffer is placed between the sidewalk and curb, the preferred minimum sidewalk width is 5 ft. See Standard Drawing Series E 604-SDWK for sidewalk details.

LEGEND:

- Buffer or Other Non-Walkable Surface
- Ramp
- Detectable Warning Surface

INDIANA DEPARTMENT OF TRANSPORTATION

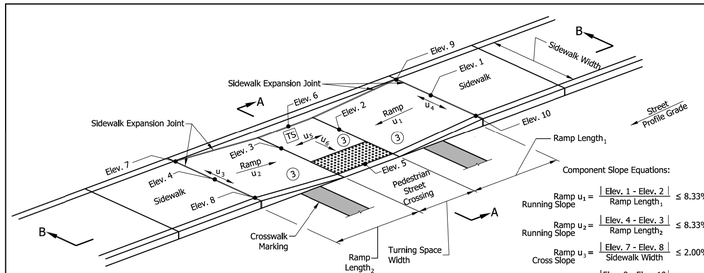
ONE-WAY DIRECTIONAL PERPENDICULAR CURB RAMP TYPICAL PLACEMENT SEPTEMBER 2016

STANDARD DRAWING NO. E 604-SWCR-05

ELIZABETH W. PHILLIPS REGISTERED No. 10200124 STATE OF INDIANA PROFESSIONAL ENGINEER

/s/ Elizabeth W. Phillips 03/15/16
DESIGN STANDARDS ENGINEER DATE

/s/ Mark A. Miller 03/18/16
CHIEF ENGINEER DATE



Component Slope Equations:

Ramp u_1 Running Slope $= \frac{|\text{Elev. 1} - \text{Elev. 2}|}{\text{Ramp Length}_1} \le 8.33\%$

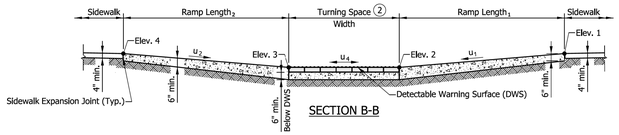
Ramp u_2 Running Slope $= \frac{|\text{Elev. 4} - \text{Elev. 3}|}{\text{Ramp Length}_2} \le 8.33\%$

Ramp u_3 Cross Slope $= \frac{|\text{Elev. 7} - \text{Elev. 8}|}{\text{Sidewalk Width}} \le 2.00\%$

Ramp u_4 Cross Slope $= \frac{|\text{Elev. 9} - \text{Elev. 10}|}{\text{Sidewalk Width}} \le 2.00\%$

Turning Space Cross Slope $u_5 = \frac{|\text{Elev. 2} - \text{Elev. 3}|}{\text{Turning Space Width}} \le 2.00\%$ (5)

Turning Space Running Slope $u_6 = \frac{|\text{Elev. 6} - \text{Elev. 5}|}{\text{Sidewalk Width}} \le 2.00\%$



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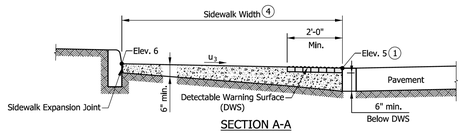

SECTION A-A

NOTES:

1. The bottom edge of the turning space 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 and a running slope of 2.00% maximum. 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.
3. Curb ramp surface shall be coarse broomed transverse to the running slope.
4. Where there is no buffer between the sidewalk and curb, the preferred minimum sidewalk width is 6 ft. Where a buffer is placed between the sidewalk and curb, the preferred minimum sidewalk width is 5 ft. See Standard Drawing Series E 604-SDWK for sidewalk details.
5. See Standard Drawing E 604-SWCR-01 for cross slope exceptions.
6. See Standard Drawing E 604-SWCR-12, -13, and -14 for Detectable Warning Surface placement, configuration, and details.
7. See Standard Drawing E 604-CCSJ-01 for sidewalk expansion joint details.

LEGEND:

- Ramp
- Detectable Warning Surface
- TS Turning Space

INDIANA DEPARTMENT OF TRANSPORTATION

PARALLEL CURB RAMP COMPONENT DETAILS SEPTEMBER 2018

STANDARD DRAWING NO. E 604-SWCR-08

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

MICHAEL J. TANIS REGISTERED No. 10200108 STATE OF INDIANA PROFESSIONAL ENGINEER

RECOMMENDED FOR APPROVAL Michael J. Tanis 2-15-2019
DESIGN ENGINEER DATE

DESIGNED: MT DRAWN: SCS
CHECKED: BR CHECKED: BR

CITY OF BLOOMINGTON
PLANNING AND TRANSPORTATION

TYPICAL DETAILS

HORIZONTAL SCALE	
N/A	
VERTICAL SCALE	DESIGNATION
N/A	
SURVEY BOOK	SHEETS
	4 of 16
CONTRACT	PROJECT

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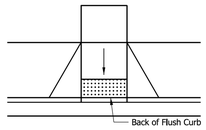
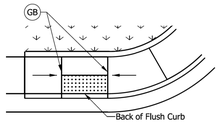
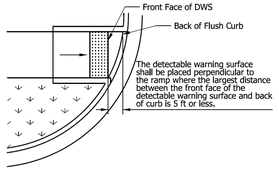
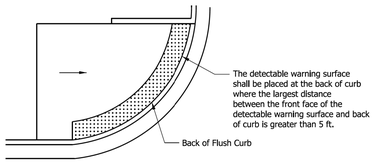


PERPENDICULAR CURB RAMP

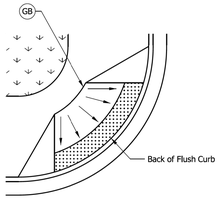


PARALLEL CURB RAMP (4)

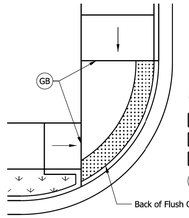




ONE-WAY DIRECTIONAL PERPENDICULAR CURB RAMPS ON A RADIUS (3)



BLENDED TRANSITION CURB RAMP (5)



DEPRESSED CORNER CURB RAMP (5)

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

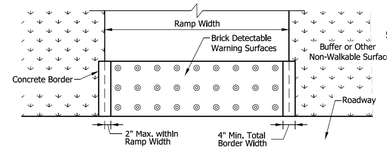
SEPTEMBER 2018

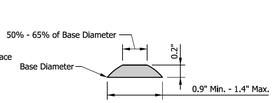
STANDARD DRAWING NO. E 604-SWCR-12

RICHARD L. VANCLEAVE REGISTERED No. 10200124 STATE OF INDIANA PROFESSIONAL ENGINEER

/s/ Elizabeth W. Phillips 03/29/18
DESIGN STANDARDS ENGINEER DATE

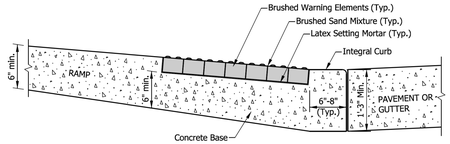
/s/ John Leckie 04/25/18
CHIEF ENGINEER DATE



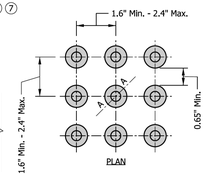


SECTION A-A

BRICK DETECTABLE WARNING SURFACE WITH CONCRETE BORDER (6) (7)



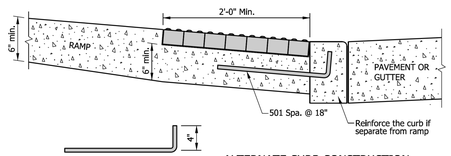
TYPICAL RAMP AND BRICK SURFACE CONSTRUCTION DETAIL



TRUNCATED DOMES

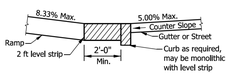
NOTES:

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.



ALTERNATE CURB CONSTRUCTION

501 x 1'-10"



CHANGE OF GRADE > 11% (5)

INDIANA DEPARTMENT OF TRANSPORTATION

DETECTABLE WARNING SURFACE DETAILS

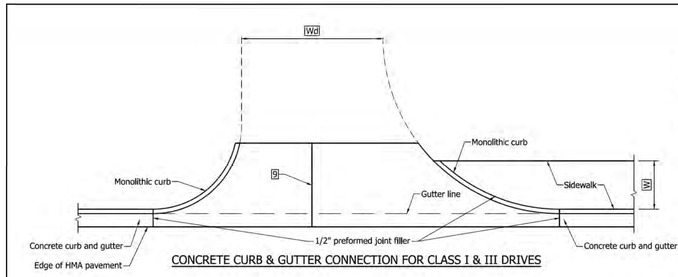
SEPTEMBER 2018

STANDARD DRAWING NO. E 604-SWCR-14

RICHARD L. VANCLEAVE 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



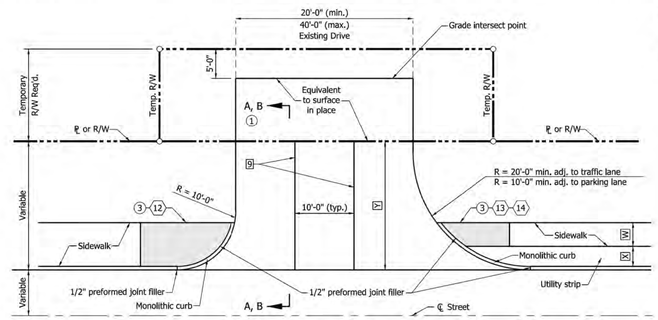
CONCRETE CURB & GUTTER CONNECTION FOR CLASS I & III DRIVES

NOTES:

1. See Standard Drawing E 610-DRIV-08 for Section A-A, and Section B-B.
2. Pavement shall be PCCP for Approaches, 9 in., on subgrade treatment Type IIIA.
3. See Standard Drawings E 604-SDWK-01 or E 604-SDWK-02 for sidewalk elevation transition details, or Standard Drawing E 604-SWCR-09 for sidewalk curb ramp details if the drive is signalized.
4. See Standard Drawing E 610-DRIV-07 for joint placement details.
5. See Standard Drawing E 610-DRIV-13 for General Notes and additional Legend.
6. See Standard Drawing 503-CCPJ-02 for longitudinal joint details.

LEGEND

W = Width of sidewalk
Wd = Driveway width
X = Distance between back face of curb and sidewalk
Y = Distance from front face of curb to ℄ or R/W
= Sidewalk elevation transition



PLAN VIEW - CLASS III DRIVE

INDIANA DEPARTMENT OF TRANSPORTATION

CLASS III DRIVE

SEPTEMBER 2012

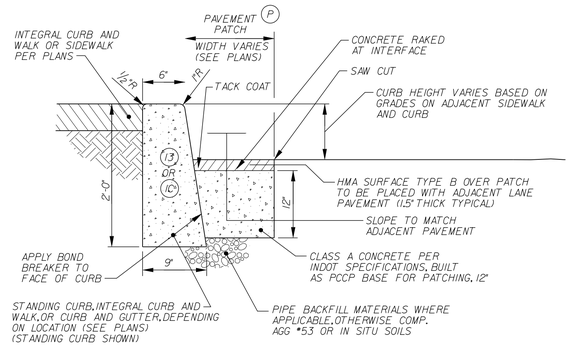
STANDARD DRAWING NO. E 610-DRIV-03

RICHARD L. VanCLEAVE REGISTERED No. 9750 STATE OF INDIANA PROFESSIONAL ENGINEER

/s/ Richard L. VanCleave 09/04/12
SUPERVISOR, ROADWAY STANDARDS DATE

/s/ Mark A. Miller 09/04/12
CHIEF ENGINEER DATE

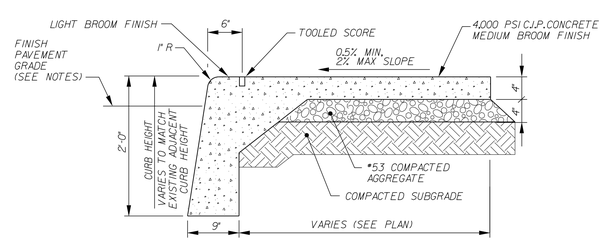
NOTE:
CONTRACTOR SHALL PROVIDE SUBSTITUTION OF CAST STEEL PLATES IN LIEU OF THE BRICKS SHOWN HERE. OTHER ELEMENTS OF THIS DETAIL APPLY.



P PAVEMENT PATCH AND OVERLAY DETAIL
NTS

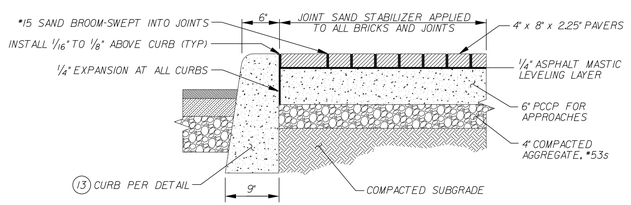
NOTES:

1. AREA BEHIND CURBS TO RECEIVE TREATMENT AS SHOWN ON PLANS.
2. REFER TO CURB JOINTS NOTES FOR CURB JOINTING.
3. PAVEMENT PATCHING MAY NOT BE REQUIRED IF EXISTING PAVEMENT CAN BE REMOVED TO A CLEAN AND STRAIGHT EDGE AT FRONT OF PROPOSED CURB OR GUTTER. CITY APPROVAL IS REQUIRED.
4. PAVEMENT PATCHING REQUIRED WHEREVER EXISTING PAVEMENT MUST BE REPAIRED OR REPLACED NEXT TO REQUIRED CURB, DRIVE OR SIDEWALK WORK.



IC INTEGRAL CURB AND WALK
NTS

NOTES:
1. HAND FINISH CURB TO A 6" DEPTH (TYP.)
2. THIS DETAIL MAY BE USED WHERE NEW CONCRETE WALKS ARE NEXT TO NEW CURBS.
3. USE IN CONJUNCTION WITH PAVEMENT PATCH DETAIL.



B BRICK PAVEMENT OVER CONCRETE IN SIDEWALK AREAS

THIS DETAIL ONLY PROVIDED IN THE EVENT THAT THE CONTRACTOR DISTURBS AN AN AREA THAT IS CURRENTLY AND IS INTENDED TO REMAIN BRICK. NO NEW BRICK PAVEMENT IS OTHERWISE REQUIRED.

MICHAEL J. TANIS REGISTERED No. 10200108 STATE OF INDIANA PROFESSIONAL ENGINEER

RECOMMENDED FOR APPROVAL Michael J. Tanis 2-15-2019
DESIGN ENGINEER DATE

DESIGNED: MT DRAWN: SCS
CHECKED: BR CHECKED: BR

CITY OF BLOOMINGTON
PLANNING AND TRANSPORTATION

TYPICAL DETAILS

HORIZONTAL SCALE	
N/A	
VERTICAL SCALE	DESIGNATION
N/A	
SURVEY BOOK	SHEETS
	5 of 16
CONTRACT	PROJECT

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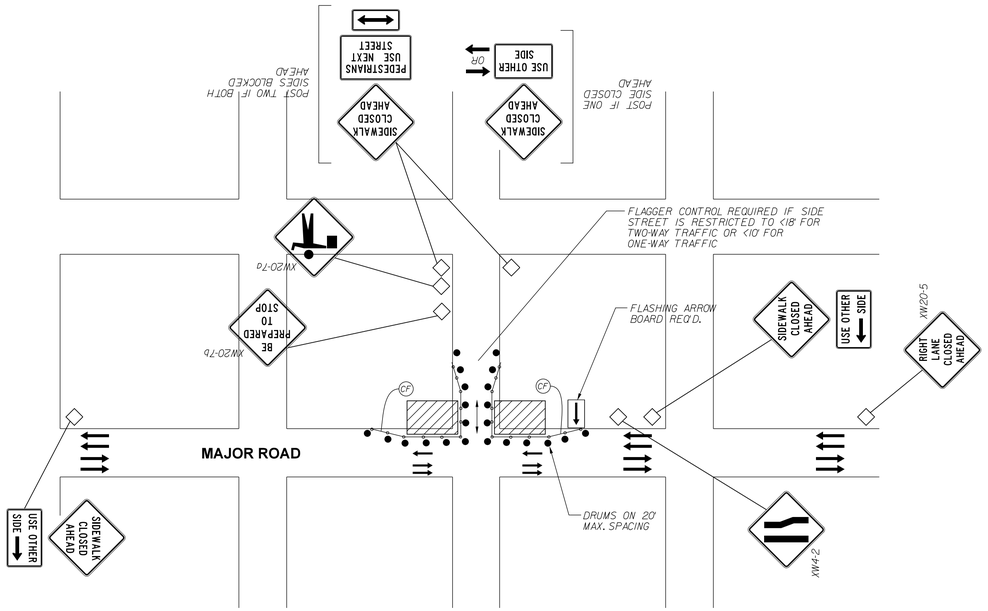
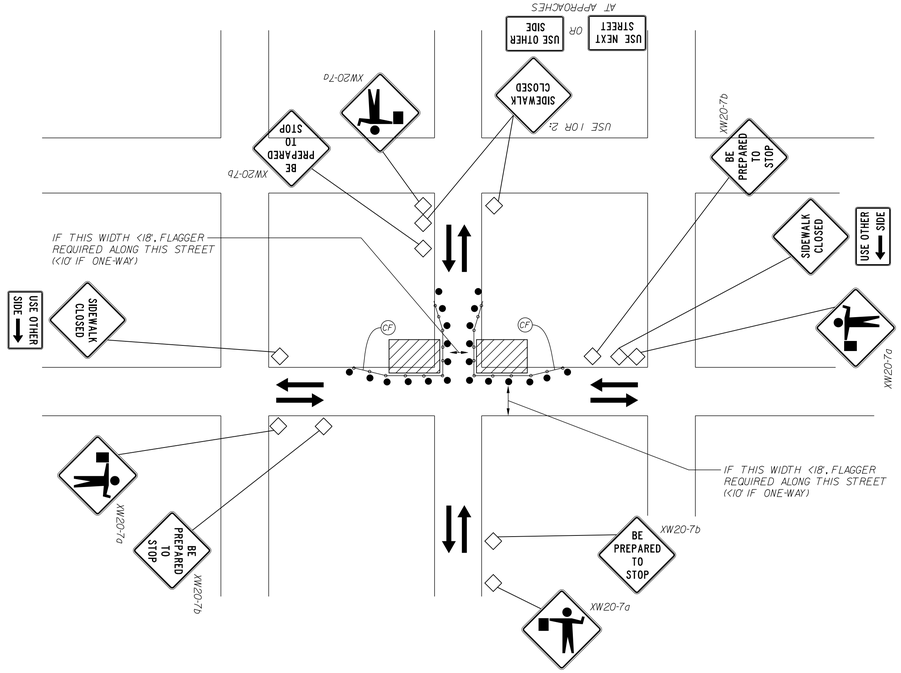


MULTI-LANE ROAD EXAMPLE



TYPICAL TWO-CORNER WORKZONE EXAMPLE
(IF A ONE-WAY STREET IS INVOLVED, THE DOWNSTREAM VEHICULAR SIGNS MAY BE OMITTED)

WORK SEQUENCING / REQUIREMENTS:

CONTRACTOR MAY WORK AS MANY INTERSECTIONS AS THEY WISH AT A TIME, BUT NO MORE THAN 2 CORNERS MAY BE WORKED AT A TIME AT EACH SITE, AND THESE ADJACENT CORNERS MUST BE ON THE SAME SIDE OF THE DOMINANT STREET.

IF ADJACENT INTERSECTIONS ALONG WASHINGTON OR 6TH ARE WORKED AT THE SAME TIME, THEN THE WORKZONES MUST BE ON THE SAME SIDE OF THESE STREETS AT EACH INTERSECTION.

ROAD RESTRICTION OR CLOSURE REQUIREMENTS:

1. NO FULL ROAD CLOSURES WILL BE ALLOWED FOR THIS WORK.
2. ALL ROAD RESTRICTIONS SHALL ONLY BE PERFORMED AFTER PERMITTING AND NOTIFICATION REQUIREMENTS HAVE BEEN MET.
3. WHERE PUBLICLY-USED PARKING IS TO BE RESTRICTED OR BLOCKED TO PROVIDE CONTRACTOR STAGING OR WORKING SPACE, THE CONTRACTOR SHALL COORDINATE THROUGH THE CITY TO HAVE THESE SPACES POSTED FOR NO PARKING ON (SPECIFIC DATES) A MINIMUM 5 BUSINESS DAYS IN ADVANCE OF SUCH CLOSURE.
4. AS A GENERAL RULE, ROAD RESTRICTIONS SHALL BE LIFTED DAILY AS WORK IS COMPLETED FOR THE DAY, RETURNING THE ROAD TO NORMAL VEHICULAR USE EACH DAY. PARKING LANES MAY BE KEPT CLOSED BUT ONLY WITH CITY APPROVAL IN ADVANCE, AND ONLY FOR THE TIME NECESSARY TO SUPPORT WORK IN PROGRESS AND EXPECTED TO RESUME THE FOLLOWING DAY.
5. CONTRACTOR MUST SUPPORT TRAFFIC FLOW, EVEN IF WITH FLAGGERS. TO THE MAXIMUM EXTENT PRACTICABLE, CONTRACTOR MUST ALWAYS BE ABLE TO CLEAR A MINIMUM OF 1 LANE WIDTH TO ACCOMODATE EMERGENCY VEHICLES.
6. ANY MULTI-LANE ROADS MAY NEVER HAVE MORE THAN 1 LANE RESTRICTED. WHERE ANY PORTION OF THESE MULTI-LANE ROADS IS TO BE RESTRICTED, THE RESTRICTION SHALL BE SET TO A FULL LANE, NOT A PARTIAL LANE, AND FULL ADVANCE SIGNAGE SHALL BE USED TO MAXIMIZE SPACE FROM THE WORK TO FLOWING TRAFFIC.
7. ROGERS STREET MUST SUPPORT TWO-WAY TRAFFIC, AND MAY NOT BE RESTRICTED TO LESS THAN 18'.
8. IN ADDITION TO THE REQUIREMENTS ABOVE, ALL OTHER STREETS SHALL HAVE A MINIMUM 1 LANE WIDTH OPEN TO TRAFFIC, AND ANY TIME THAT THE AVAILABLE WIDTH DROPS BELOW 18' FOR A TWO-WAY STREET, OR 10' FOR A ONE-WAY STREET, FLAGGING OPERATIONS ARE REQUIRED.

PERMITTING & NOTIFICATION REQUIREMENTS:

1. CONTRACTOR SHALL MAINTAIN A CURRENT RIGHT OF WAY PERMIT WITH THE CITY THROUGHOUT THE DURATION OF THE WORK. THERE WILL BE NO CHARGE FOR THIS PERMIT, BUT IT MUST BE FILED ALONG WITH ANY REQUIRED INSURANCE AND BONDING INFORMATION.
2. CONTRACTOR SHALL PROVIDE TWO BUSINESS DAYS ADVANCE NOTICE OF THE LOCATIONS THEY WILL BE WORKING AND THE ROAD RESTRICTIONS THAT SHOULD BE ANTICIPATED.

GENERAL NOTE:

1. ALL MAINTENANCE OF TRAFFIC SHALL COMPLY WITH THE LATEST EDITION OF INDIANA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD).
2. CONTRACTOR SHALL NOT COMPLETELY RESTRICT ACCESS TO A SINGLE PROPERTY.

MAINTENANCE OF PEDESTRIAN ACCESS NOTES:

1. CONTRACTOR SHALL ERECT, MAINTAIN AND MODIFY TEMPORARY CONSTRUCTION FENCING AROUND EACH WORKZONE TO DISCOURAGE TRESPASS DURING ALL PHASES. CONSTRUCTION FENCING SHALL BE INCLUDED IN THE COSTS FOR MAINTENANCE OF TRAFFIC.
2. CONSTRUCTION FENCING SHALL BE USED IN CONJUNCTION WITH TRAFFIC DRUMS WHERE VEHICULAR TRAFFIC IS ALSO BEING RESTRICTED ALONGSIDE A WORKZONE.
3. PEDESTRIAN SIGNAGE MUST BE KEPT UPDATED TO THE CURRENT WORKZONES JUST AS VEHICULAR SIGNAGE IS ADJUSTED TO CURRENT CONDITIONS.

BECAUSE THE CONTRACTOR IS ALLOWED TO WORK AS MANY INTERSECTIONS CONCURRENTLY AS THEY WISH, ALL SIGNAGE, FLAGGERS, DRUMS, BARRICADES, FENCING AND OTHER ITEMS RELATED TO MAINTAINING VEHICULAR AND PEDESTRIAN TRAFFIC ARE NOT TO BE MEASURED SEPARATELY, BUT INSTEAD WILL BE PAID UNDER THE LUMPSUM FOR MAINTAINING TRAFFIC.

MAINTENANCE OF TRAFFIC AND EROSION CONTROL ITEMS

- CONSTRUCTION SIGNS (SHAPE PER MUTCD)
- TRAFFIC FLOW DIRECTION
- FLASHING ARROW SIGN
- (CI) INLET PROTECTION, CURB
- (CF) CONSTRUCTION FENCING, 48", ORANGE ON TEMPORARY POSTS
- WORKZONE

MICHAEL J TAVIS REGISTERED No. 10200108 STATE OF INDIANA PROFESSIONAL ENGINEER

RECOMMENDED FOR APPROVAL _____ DESIGN ENGINEER — 2-15-2019 DATE

DESIGNED: MT | DRAWN: SCS

CHECKED: BR | CHECKED: BR

CITY OF BLOOMINGTON
PLANNING AND TRANSPORTATION

MAINTENANCE OF TRAFFIC AND EROSION CONTROL

HORIZONTAL SCALE	
VERTICAL SCALE	DESIGNATION
SURVEY BOOK	SHEETS: 6 of 16
CONTRACT	PROJECT

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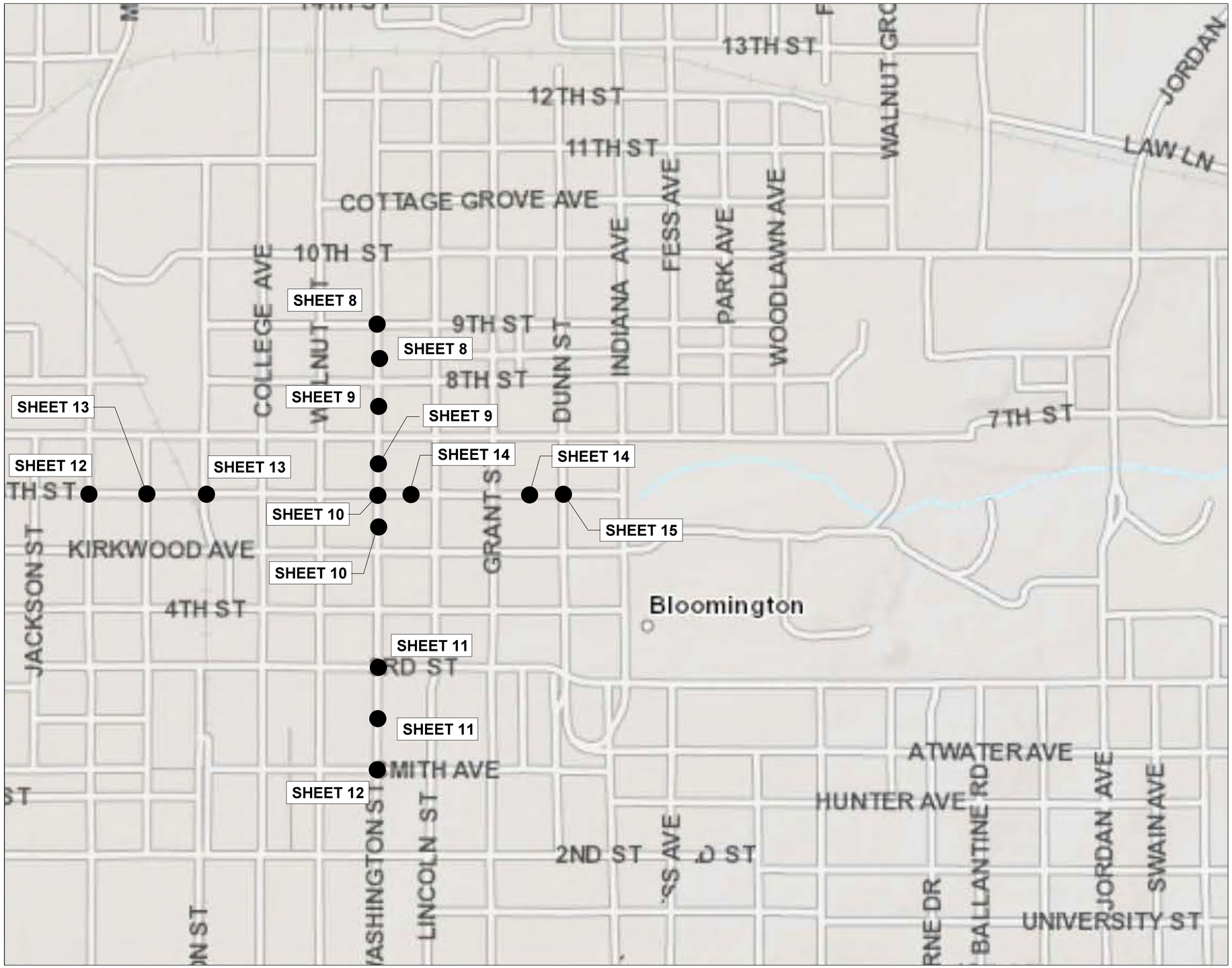

PROJECT SITE

SHEET # GUIDE TO SHEET WHERE THIS SITE IS SHOWN

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MICHAEL J JANIS REGISTERED No. 10200108 STATE OF INDIANA PROFESSIONAL ENGINEER

RECOMMENDED FOR APPROVAL _____ DESIGN ENGINEER 2-15-2019 DATE

DESIGNED: MT DRAWN: SCS

CHECKED: BR CHECKED: BR

CITY OF BLOOMINGTON
PLANNING AND TRANSPORTATION

OVERALL SITE PLANS INDEX MAP

HORIZONTAL SCALE	
1" = 12'-0"	
VERTICAL SCALE	DESIGNATION
SURVEY BOOK	SHEETS
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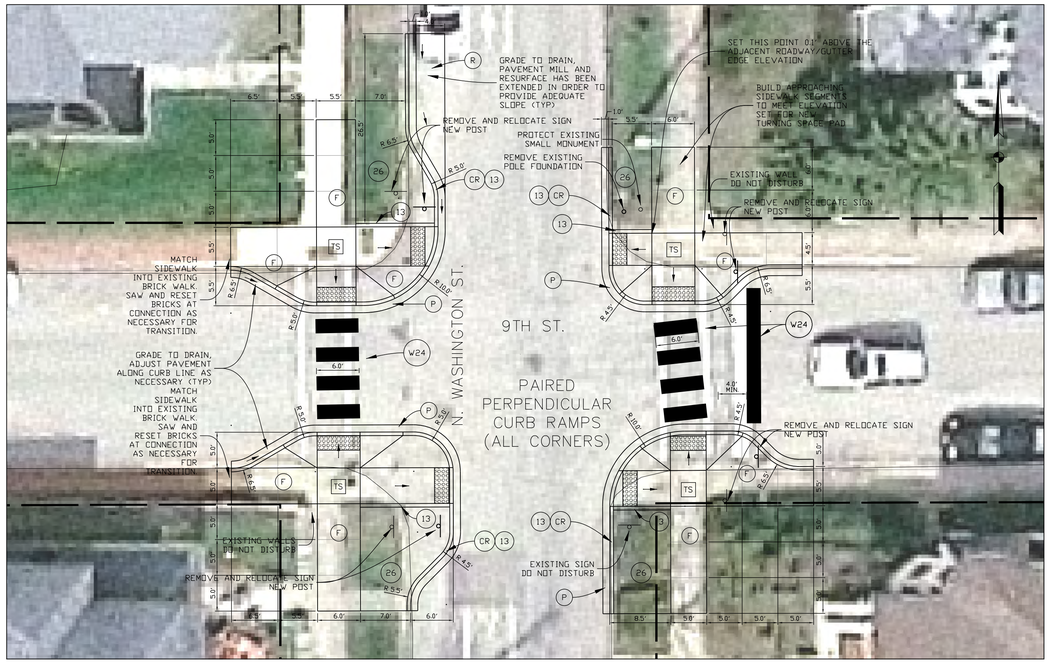
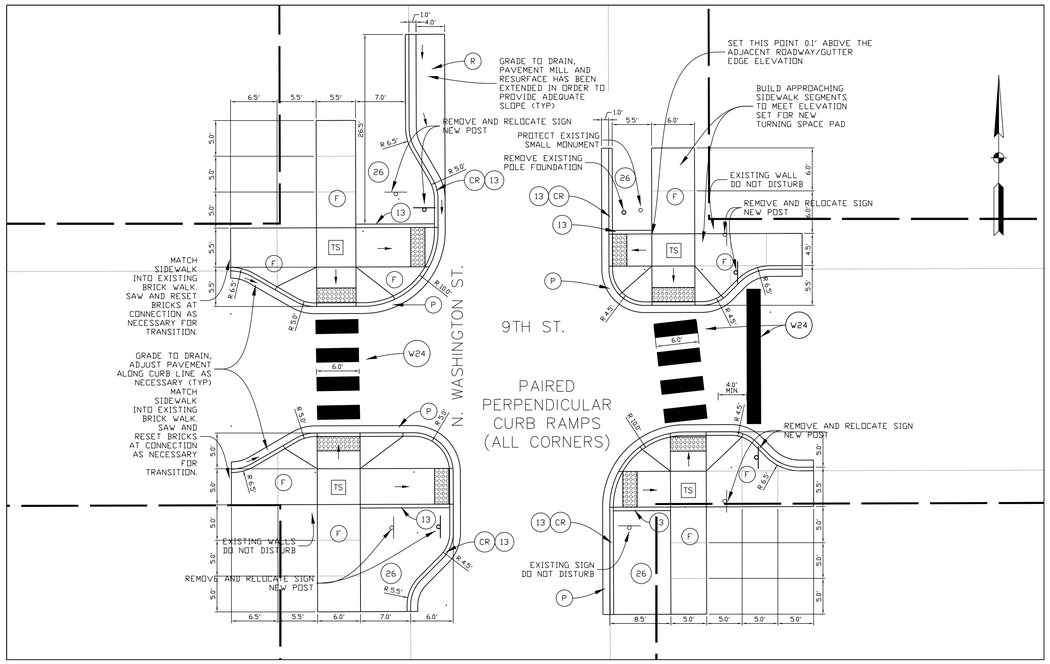
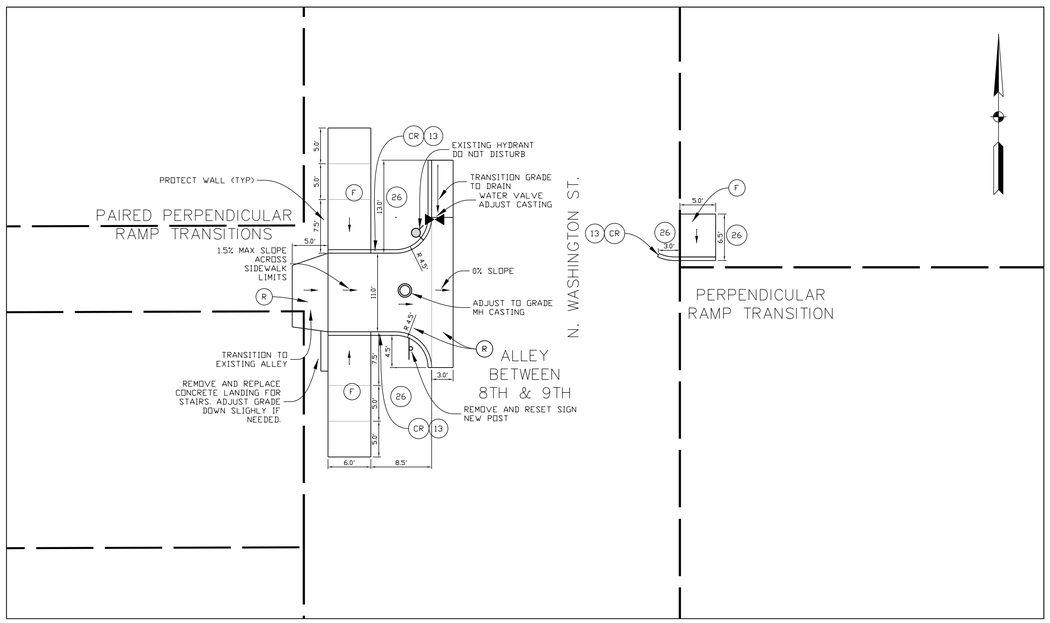
CONTRACT	PROJECT



WASHINGTON STREET and 9TH STREET

WASHINGTON STREET and ALLEY





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MICHAEL J. TAVIS REGISTERED No. 10200108 STATE OF INDIANA PROFESSIONAL ENGINEER

RECOMMENDED FOR APPROVAL _____ DESIGN ENGINEER 2-15-2019 DATE

DESIGNED: MT DRAWN: SCS

CHECKED: BR CHECKED: BR

CITY OF BLOOMINGTON
PLANNING AND TRANSPORTATION

INTERSECTION SITE PLAN

HORIZONTAL SCALE	
1" = 10'-0"	
VERTICAL SCALE	DESIGNATION
SURVEY BOOK	SHEETS
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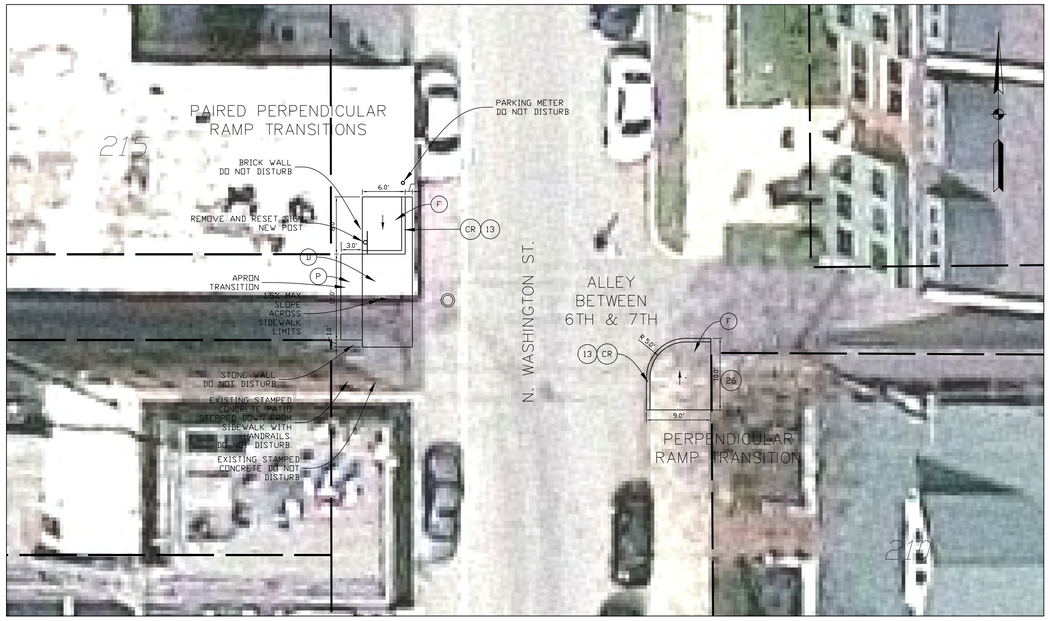
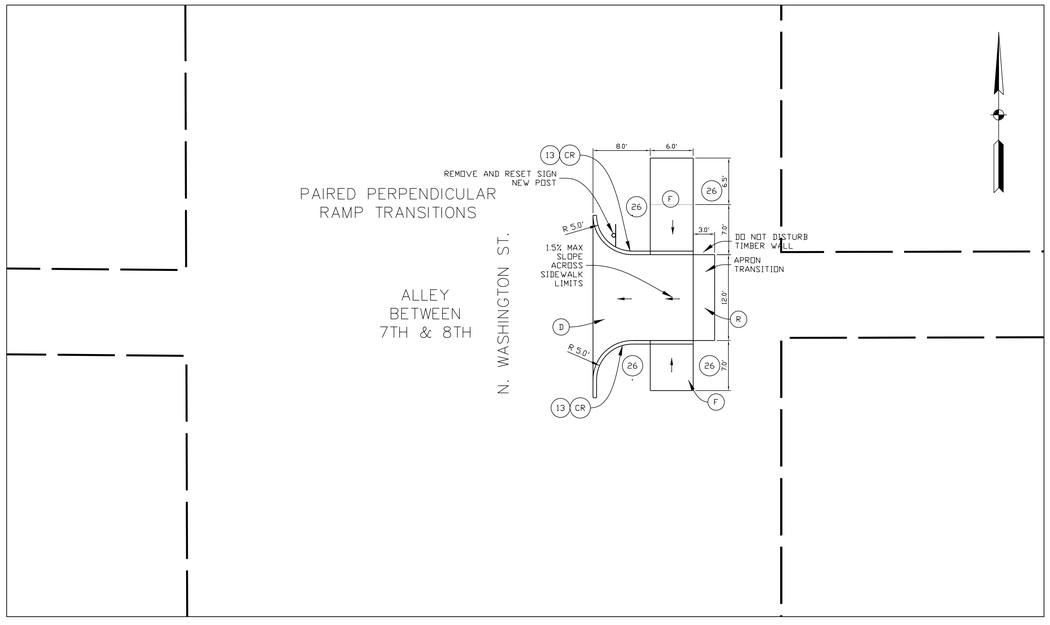
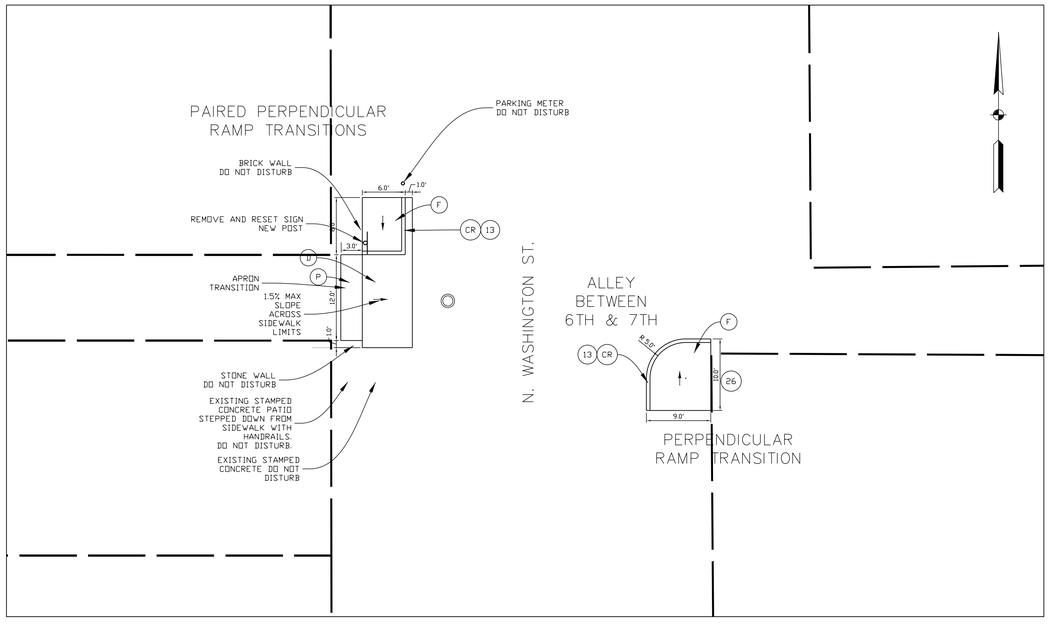
CONTRACT	PROJECT

WASHINGTON STREET and ALLEY



WASHINGTON STREET and ALLEY





MICHAEL J TAVIS
REGISTERED
No. 10200108
STATE OF INDIANA
PROFESSIONAL ENGINEER

RECOMMENDED FOR APPROVAL _____ DESIGN ENGINEER — 2-15-2019 DATE

DESIGNED: MT — DRAWN: SCS

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CITY OF BLOOMINGTON
PLANNING AND TRANSPORTATION

INTERSECTION SITE PLAN

HORIZONTAL SCALE	
1" = 10'-0"	
VERTICAL SCALE	DESIGNATION
SURVEY BOOK	SHEETS
	9 of 16
CONTRACT	PROJECT

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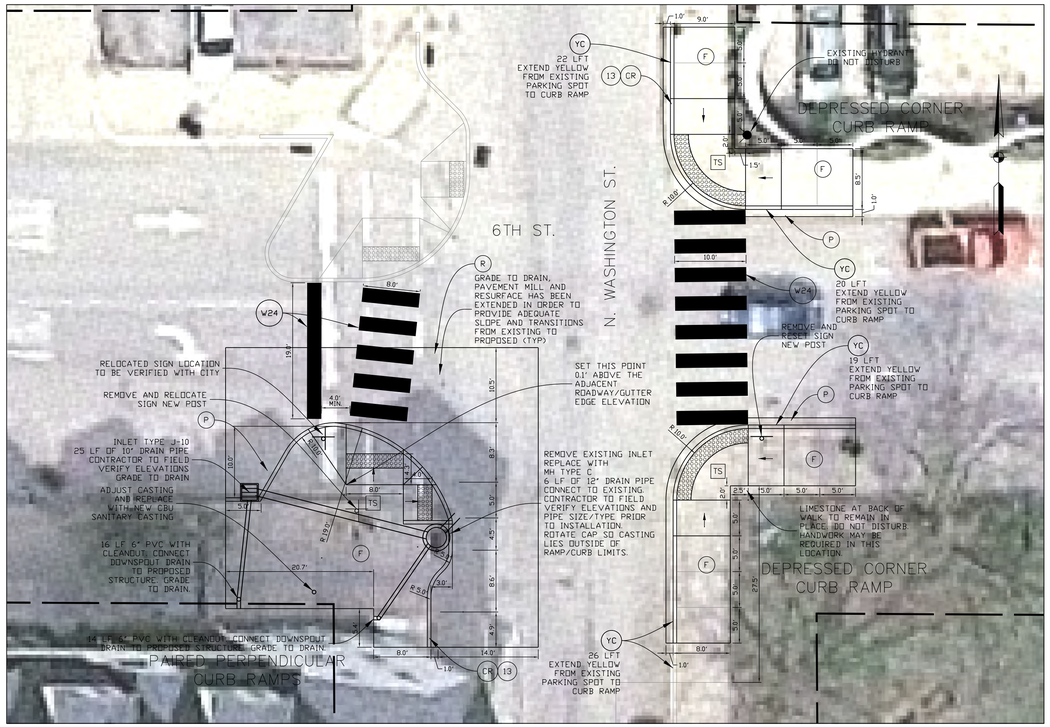
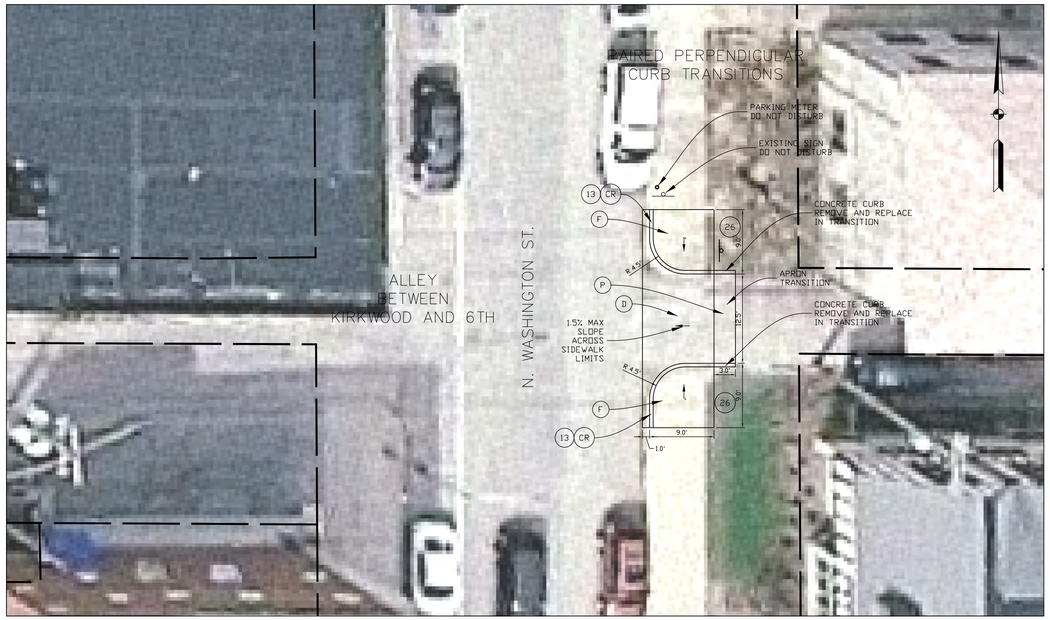
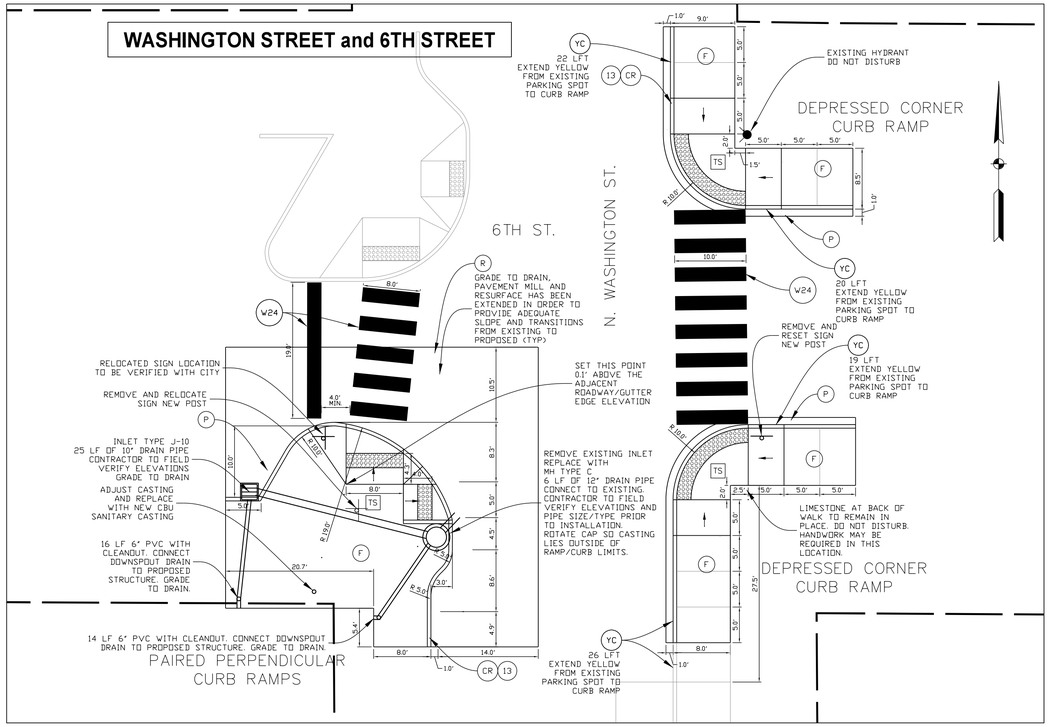
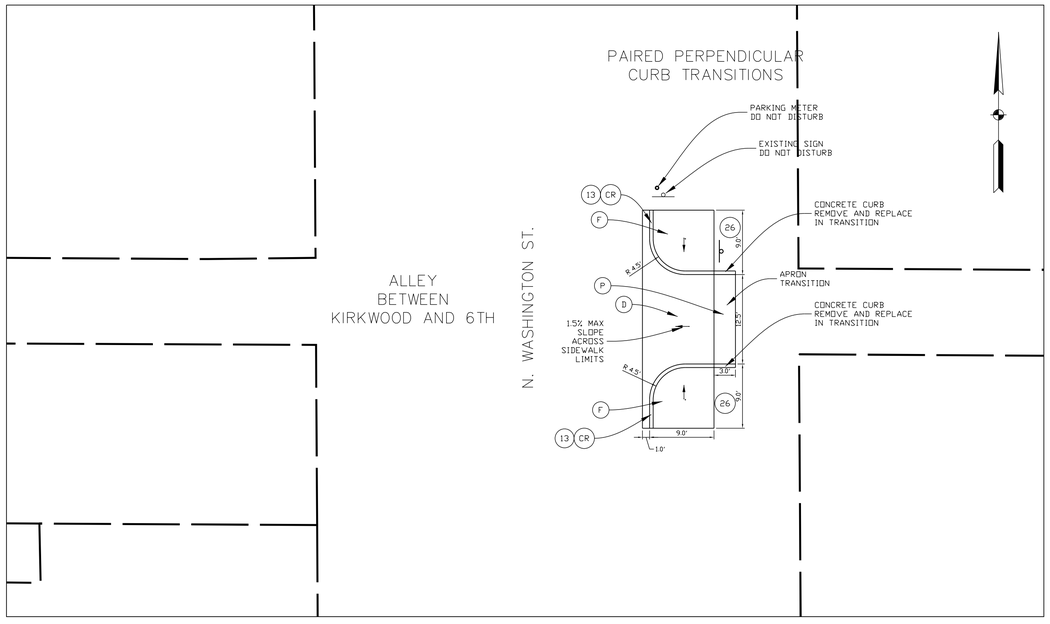




WASHINGTON STREET and ALLEY

WASHINGTON STREET and 6TH STREET





RECOMMENDED FOR APPROVAL Michael J Tavis 2-15-2019
DESIGN ENGINEER DATE

DESIGNED: MT DRAWN: SCS
CHECKED: BR CHECKED: BR

CITY OF BLOOMINGTON
PLANNING AND TRANSPORTATION

INTERSECTION SITE PLAN

HORIZONTAL SCALE	
1" = 10'-0"	
VERTICAL SCALE	DESIGNATION
SURVEY BOOK	SHEETS
	10 of 16
CONTRACT	PROJECT

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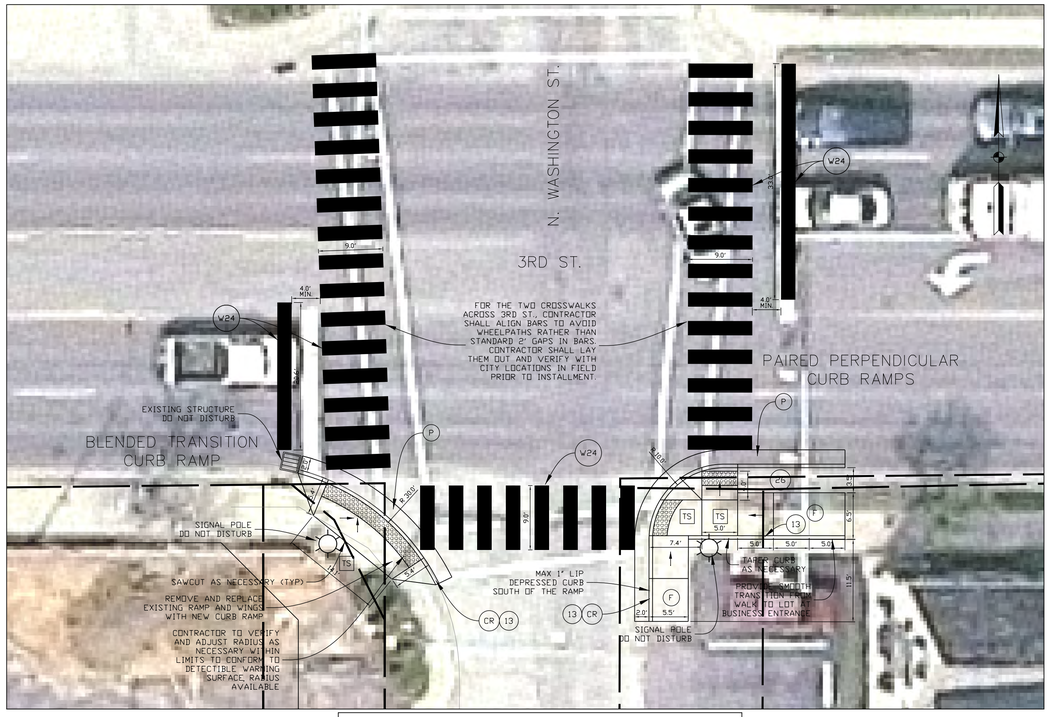
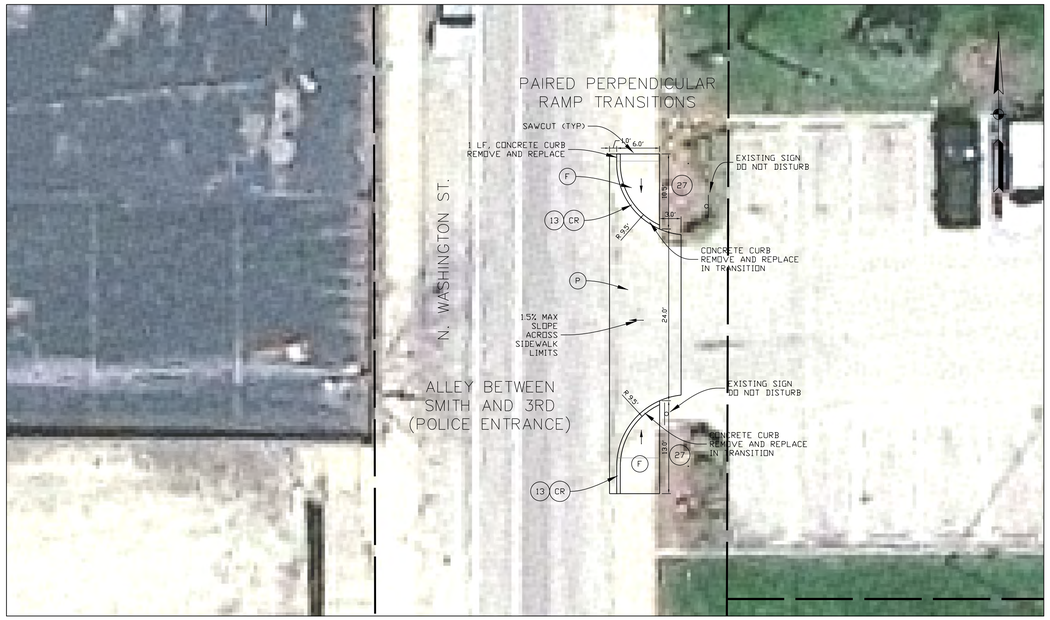
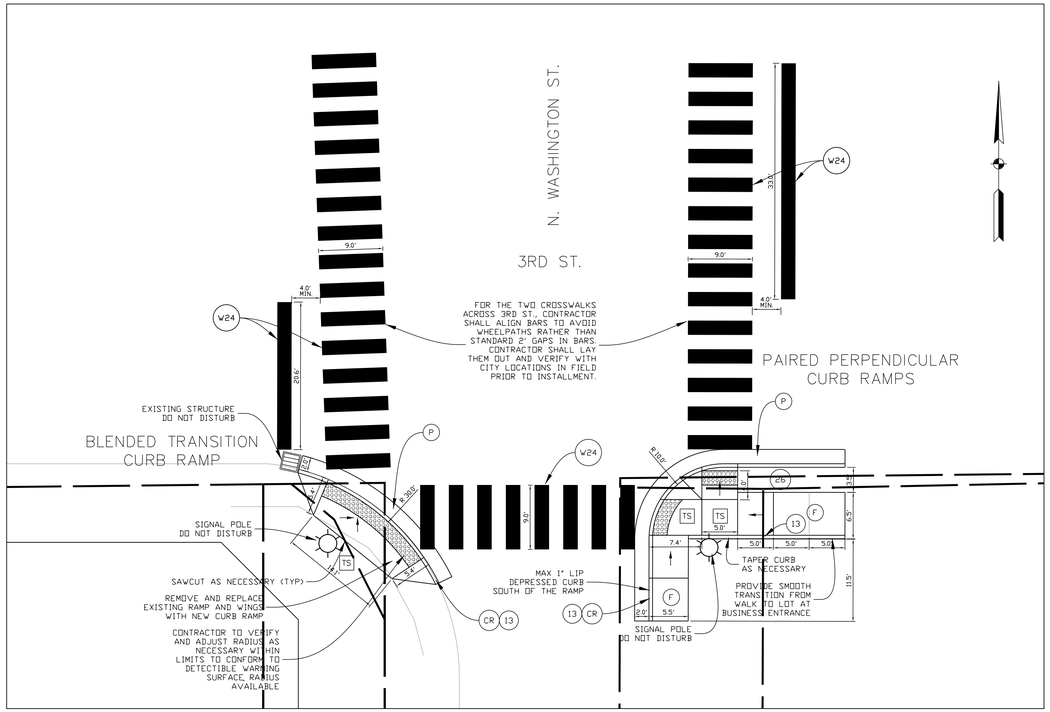
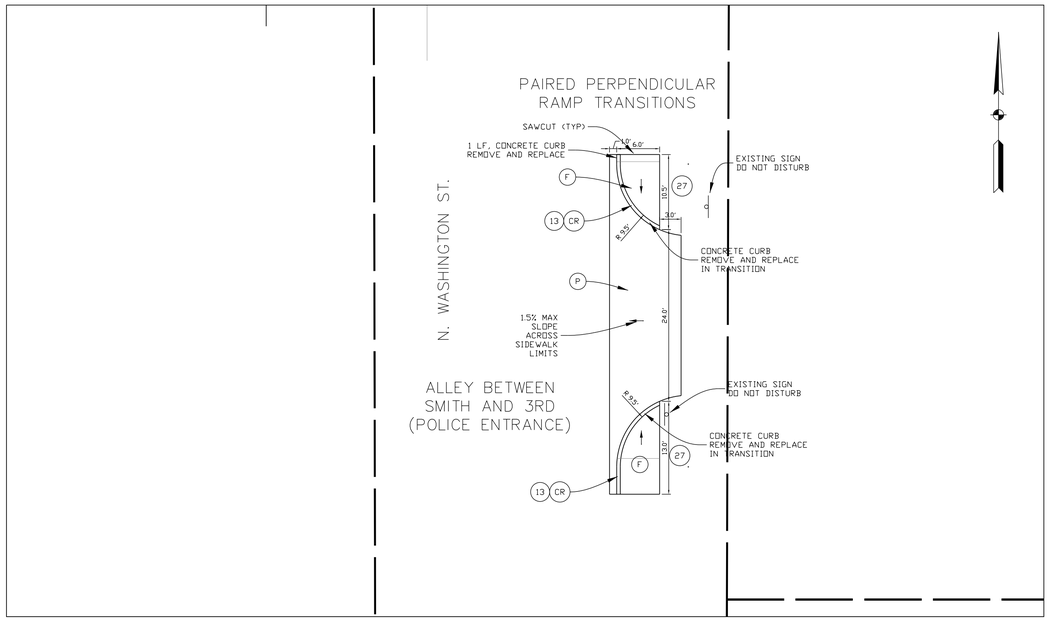


WASHINGTON STREET and 3RD STREET



WASHINGTON STREET and ALLEY





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2/28/2019

MICHAEL J TANIS REGISTERED No. 10200108 STATE OF INDIANA PROFESSIONAL ENGINEER

RECOMMENDED FOR APPROVAL — DESIGN ENGINEER — 2-15-2019 DATE

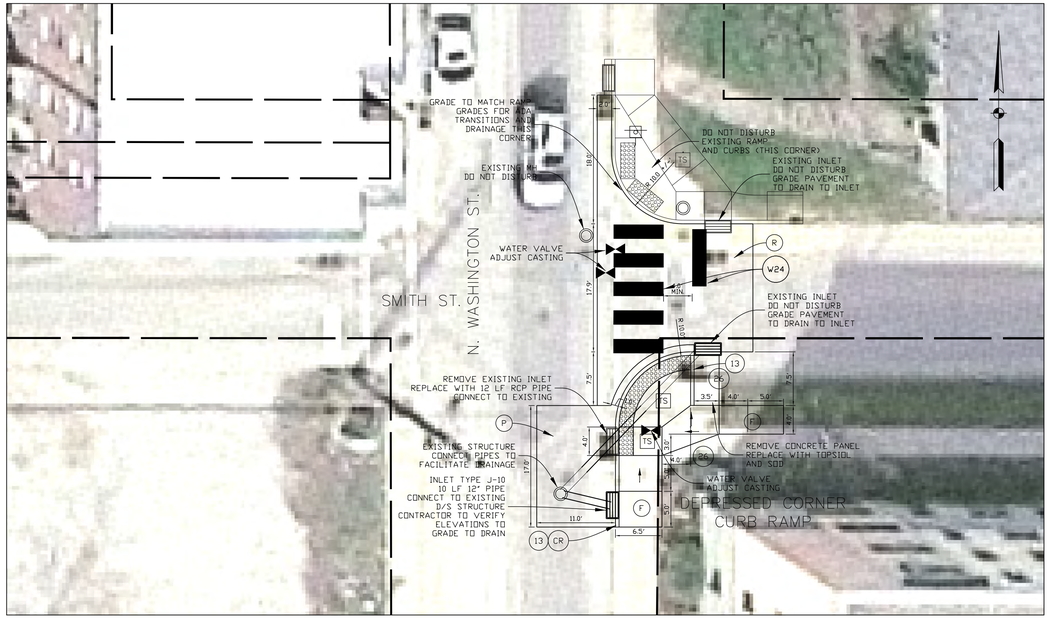
DESIGNED: MT | DRAWN: SCS

CHECKED: BR | CHECKED: BR

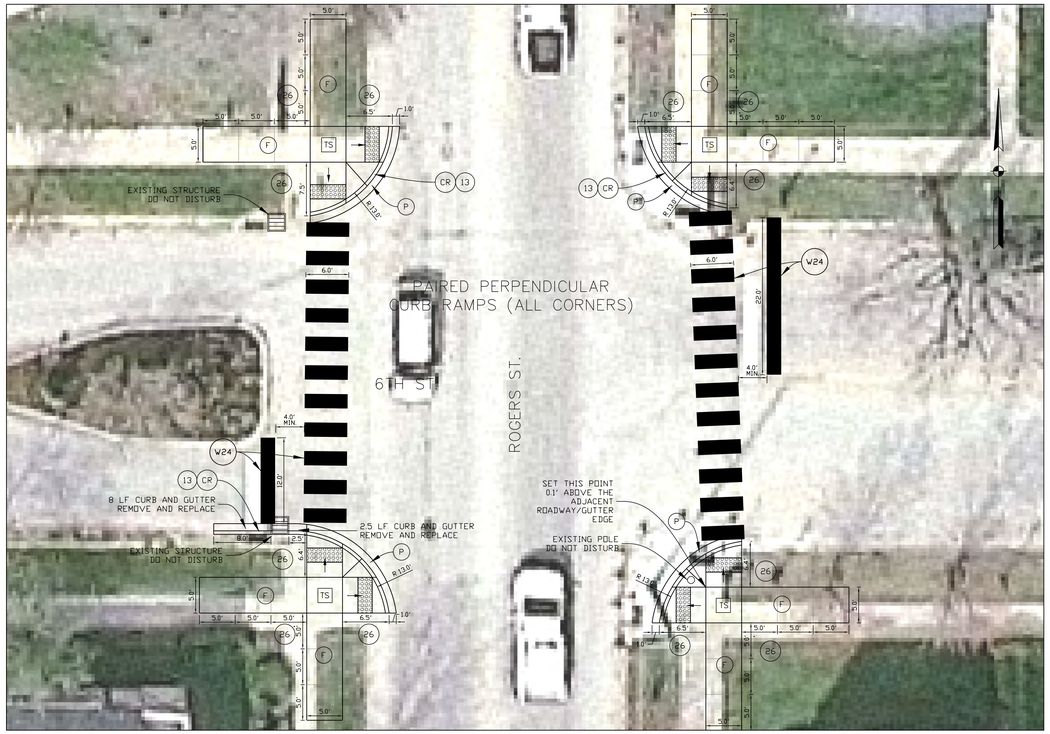
CITY OF BLOOMINGTON
PLANNING AND TRANSPORTATION

INTERSECTION SITE PLAN

HORIZONTAL SCALE	
1" = 10'-0"	
VERTICAL SCALE	DESIGNATION
SURVEY BOOK	SHEETS
	11 of 16
CONTRACT	PROJECT



WASHINGTON STREET and SMITH STREET



6TH STREET and ROGERS STREET

EXISTING STRUCTURE DO NOT DISTURB
PAIRED PERPENDICULAR CURB RAMPS (ALL CORNERS)
6TH ST.
ROGERS ST.
8 LF CURB AND GUTTER REMOVE AND REPLACE
2.5 LF CURB AND GUTTER REMOVE AND REPLACE
EXISTING STRUCTURE DO NOT DISTURB
SET THIS POINT 0.1' ABOVE THE ADJACENT ROADWAY/GUTTER EDGE
EXISTING POLE DO NOT DISTURB

MICHAEL J. LEWIS REGISTERED No. 10200108 STATE OF INDIANA PROFESSIONAL ENGINEER

RECOMMENDED FOR APPROVAL _____ DESIGN ENGINEER 2-15-2019 DATE

DESIGNED: MT DRAWN: SCS

CHECKED: BR CHECKED: BR

CITY OF BLOOMINGTON
PLANNING AND TRANSPORTATION

INTERSECTION SITE PLAN

HORIZONTAL SCALE	
1" = 10'-0"	
VERTICAL SCALE	DESIGNATION
SURVEY BOOK	SHEETS
	12 of 16
CONTRACT	PROJECT

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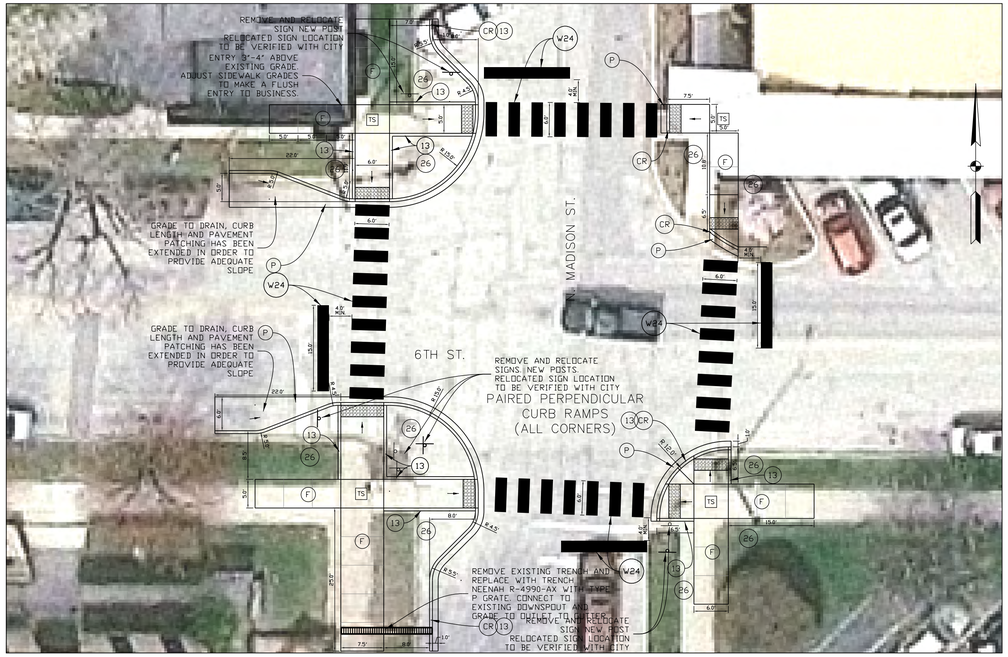
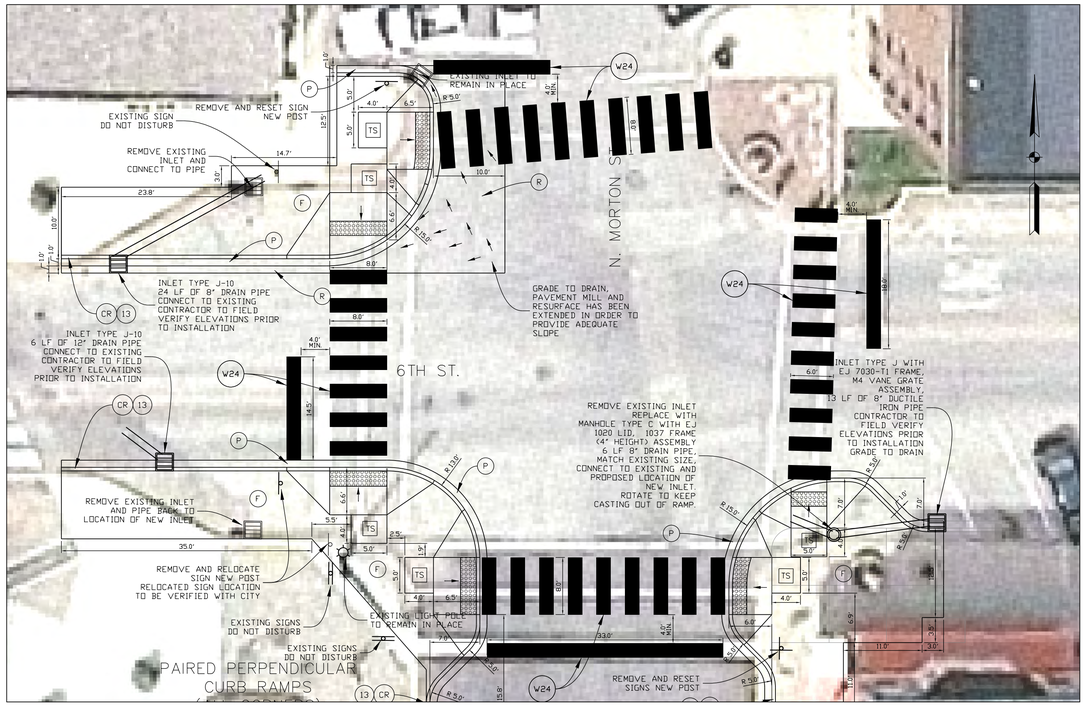


6TH STREET and MADISON STREET



6TH STREET and MORTON STREET

MICHAEL J. LEWIS REGISTERED No. 10200108 STATE OF INDIANA PROFESSIONAL ENGINEER

RECOMMENDED FOR APPROVAL Michael J. Lewis 2-15-2019
DESIGN ENGINEER DATE

DESIGNED: MT DRAWN: SCS
CHECKED: BR CHECKED: BR

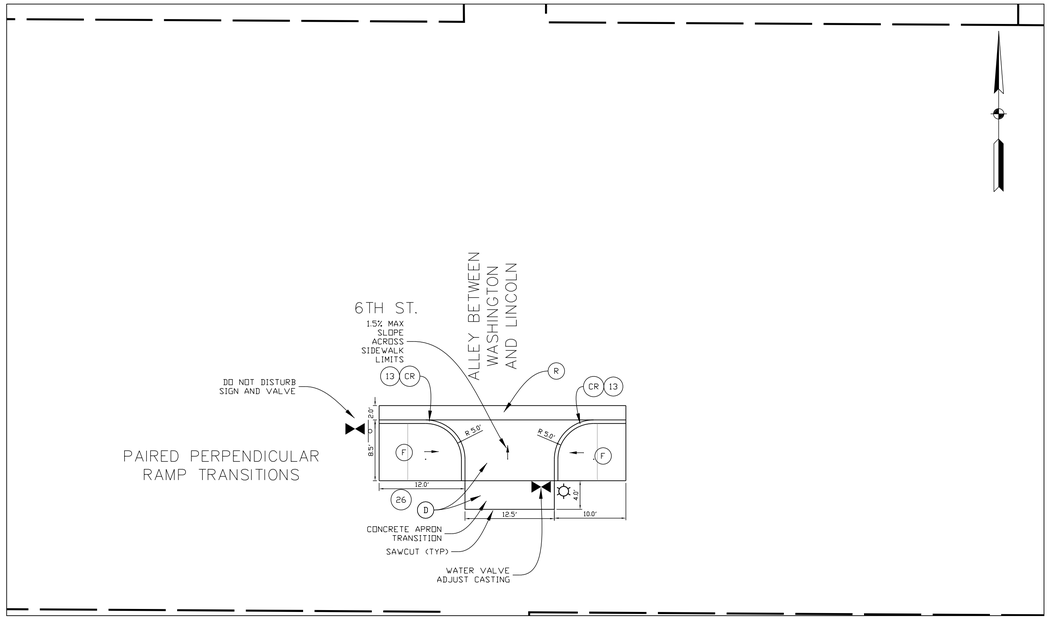
CITY OF BLOOMINGTON
PLANNING AND TRANSPORTATION

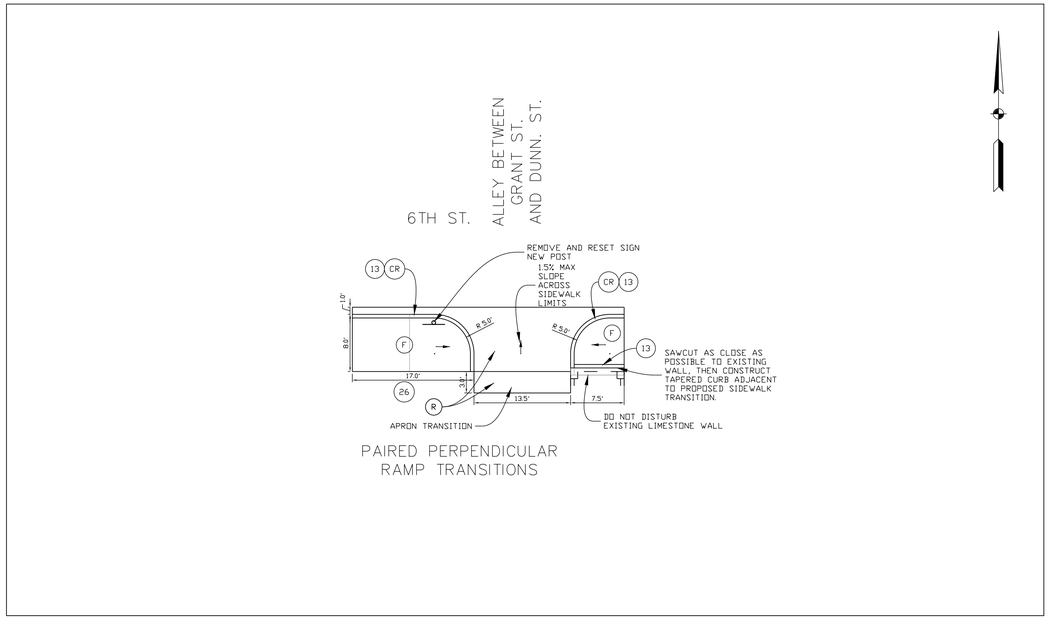
INTERSECTION SITE PLAN

HORIZONTAL SCALE	
1" = 10'-0"	
VERTICAL SCALE	DESIGNATION
SURVEY BOOK	SHEETS
	13 of 16
CONTRACT	PROJECT

6TH STREET and ALLEY

6TH STREET and ALLEY





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MICHAEL J. TAMIS REGISTERED No. 10200108 STATE OF INDIANA PROFESSIONAL ENGINEER

RECOMMENDED FOR APPROVAL _____ DESIGN ENGINEER — 2-15-2019 DATE

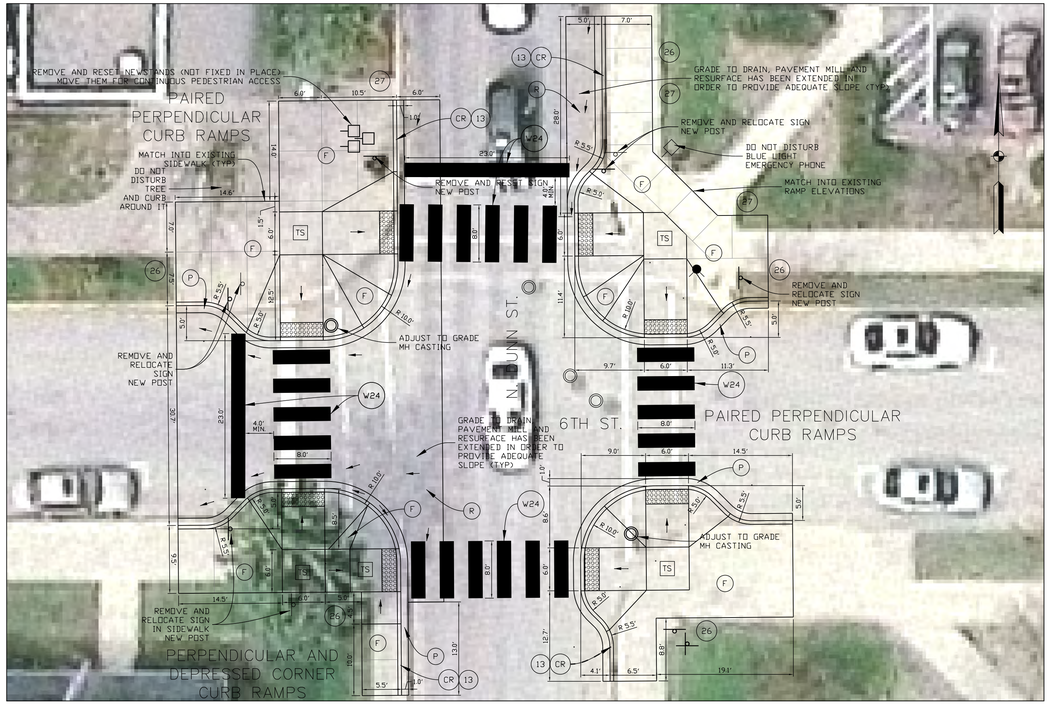
DESIGNED: MT | DRAWN: SCS

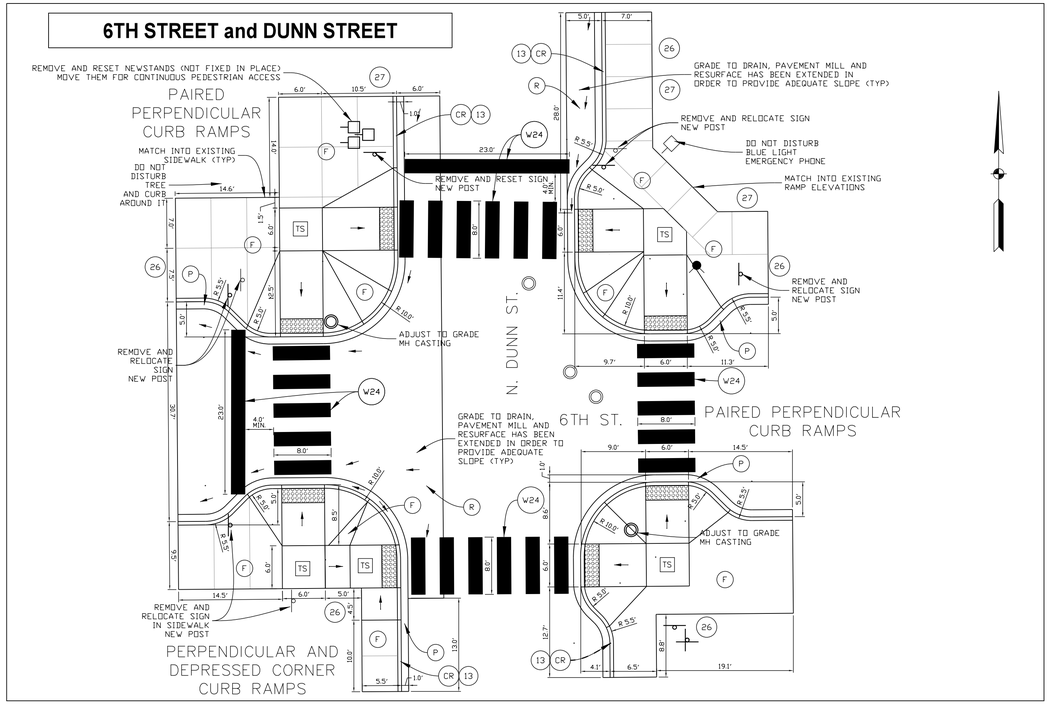
CHECKED: BR | CHECKED: BR

CITY OF BLOOMINGTON
PLANNING AND TRANSPORTATION

INTERSECTION SITE PLAN

HORIZONTAL SCALE	
1" = 10'-0"	
VERTICAL SCALE	DESIGNATION
SURVEY BOOK	SHEETS
	14 of 16
CONTRACT	PROJECT





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MICHAEL J. TAMIS REGISTERED No. 10200108 STATE OF INDIANA PROFESSIONAL ENGINEER

RECOMMENDED FOR APPROVAL Michael J Tamis 2-15-2019
DESIGN ENGINEER DATE

DESIGNED: MT DRAWN: SCS
CHECKED: BR CHECKED: BR

CITY OF BLOOMINGTON
PLANNING AND TRANSPORTATION

INTERSECTION SITE PLAN

HORIZONTAL SCALE	
1" = 10'-0"	
VERTICAL SCALE	DESIGNATION
SURVEY BOOK	SHEETS
	15 of 16
CONTRACT	PROJECT

MISCELLANEOUS SUMMARY OF QUANTITIES TABLE

LOCATION								SIDEWALKS AND RAMPS				CURBS	STRUCTURES																		LAWN / LANDSCAPING			REMOVALS AND EXCAVATION - PAID AS						
N-S STREET	E-W STREET	CORNER	MILLING, 1.5"	PCCP BASE FOR PATCHING, 12"	PCCP FOR APPROACHES, 9"	TACK COAT	HMA PATCHING, TYPE B	SIDEWALK CONCRETE	CURB RAMP, CONCRETE	DETECTABLE WARNING SURFACES	COMPACTED AGGREGATE NO 53S BASE	CURB, CONCRETE	PVC PIPE, TYPE 2, CIRCULAR, 8 IN	DUCTILE IRON PIPE, CIRCULAR, 8 IN	PVC PIPE, TYPE 2, CIRCULAR, 10 IN	RCP PIPE, TYPE 2, CIRCULAR, 12 IN	STRUCTURE, TRENCH GRATE	INLET J10, WITH CASTING	INLET J WITH EJ 7030-TYPE R VANE GRATE ASSEMBLY	MANHOLE, C4	MANHOLE, TYPE C WITH EJ 1020 LID, 1037 FRAME (4" HEIGHT) ASSEMBLY	STRUCTURE BACKFILL, No. 11 STONE	CONCRETE, CLASS A	ADJUST MANHOLE CASTING TO GRADE	VALVE CASTINGS, ADJUST TO GRADE	DOWNSPOUT DRAIN CONNECTION ASSEMBLY	PVC DRAIN PIPE, TYPE 4, CIRCULAR, 6 IN.	INLET PROTECTION	SODDING, NURSERY	MULCH, HARDWOOD SHREDDED BARK	TOPSOIL	STRUCTURE REMOVAL, PIPE AND PAVEMENT REMOVAL AS REQUIRED	PAVEMENT, REMOVE (CONCRETE, ASPHALT, SIDEWALK, RAMPS)	CURB, REMOVE	SIGN, RELOCATE, WITH POST	LINE, REMOVE, LONGITUDINAL, UP TO 24"	TRANSVERSE MARKING, REMOVE, UP TO 24"	TRANSVERSE MARKING, THERMOPLASTIC, CROSSWALK, WHITE, 24"	TRANSVERSE MARKING, THERMOPLASTIC, STOP LINE, WHITE, 24"	CURB PAINTING, YELLOW
			SYS	SYS	SYS	SYS	SYS	SYS	SYS	SYS	CYD	LFT	LFT	LFT	LFT	LFT	LFT	EACH	EACH	EACH	EACH	CYD	CYD	EACH	EACH	EACH	LFT	EACH	SYS	CYD	CYD	EACH	SYS	LFT	EA	LFT	LFT	LFT	LFT	LFT
Washington	9th	NW	7.9	7.3	0.0	15.2	15.2	18.1	16.7	2.5	3.9	71.0	0	0	0	0	0	0	0	0	0	0.0	0.0	0	0	0	0	0	15.0	0.0	9.7	0	44.6	54.0	1.0	24.0	32.0	24.0	0.0	0.0
		NE	0.0	5.5	0.0	5.5	5.5	17.4	10.5	2.4	3.1	53.5	0	0	0	0	0	0	0	0	0	0.0	0.0	0	0	0	0	0	8.0	0.0	0.9	0	35.8	43.0	1.0	24.0	54.0	24.0	19.0	0.0
		SW	0.0	6.5	0.0	6.5	6.5	18.1	18.7	2.5	4.1	62.0	0	0	0	0	0	0	0	0	0	0.0	0.0	0	0	0	0	0	16.1	0.0	11.8	0	45.8	41.0	1.0	0.0	0.0	0.0	0.0	0.0
		SE	0.0	4.4	0.0	4.4	4.4	19.7	11.5	2.3	3.5	60.0	0	0	0	0	0	0	0	0	0	0.0	0.0	0	0	0	0	0	11.0	0.0	1.2	0	37.9	44.0	1.0	0.0	0.0	0.0	0.0	0.0
Washington	Alley between	NW	34.0	0.0	0.0	34.0	34.0	11.4	0.0	0.0	1.3	24.0	0	0	0	0	0	0	0	0	0	0.0	0.0	1	1	0	0	0	8.0	0.0	0.9	0	11.4	24.0	0.0	0.0	0.0	0.0	0.0	0.0
	8th & 9th	NE	0.0	0.0	0.0	0.0	0.0	3.4	0.0	0.0	0.4	8.0	0	0	0	0	0	0	0	0	0	0.0	0.0	0	0	0	0	0	1.0	0.0	0.1	0	3.4	8.0	0.0	0.0	0.0	0.0	0.0	0.0
		SW	0.0	0.0	0.0	0.0	0.0	11.4	0.0	0.0	1.3	17.0	0	0	0	0	0	0	0	0	0	0.0	0.0	0	0	0	0	0	5.0	0.0	0.6	0	11.4	17.0	1.0	0.0	0.0	0.0	0.0	0.0
Washington	Alley between	NE	4.0	0.0	20.1	4.0	4.0	8.7	0.0	0.0	4.3	17.0	0	0	0	0	0	0	0	0	0	0.0	0.0	0	0	0	0	0	5.0	0.0	0.6	0	28.8	17.0	1.0	0.0	0.0	0.0	0.0	0.0
	7th & 8th	SE	0.0	0.0	0.0	0.0	0.0	4.4	0.0	0.0	0.5	20.0	0	0	0	0	0	0	0	0	0	0.0	0.0	0	0	0	0	0	4.0	0.0	0.4	0	4.4	20.0	0.0	0.0	0.0	0.0	0.0	0.0
Washington	Alley between	NW	0.0	4.0	11.0	4.0	4.0	4.6	0.0	0.0	2.3	13.5	0	0	0	0	0	0	0	0	0	0.0	0.0	0	0	0	0	0	0.0	0.0	0.0	0	19.6	13.5	1.0	0.0	0.0	0.0	0.0	0.0
	6th & 7th	SE	0.0	0.0	0.0	0.0	0.0	8.4	0.0	0.0	0.9	18.0	0	0	0	0	0	0	0	0	0	0.0	0.0	0	0	0	0	0	2.0	0.0	0.2	0	8.4	18.0	0.0	0.0	0.0	0.0	0.0	0.0
Washington	6th	NE	0.0	3.2	0.0	3.2	3.2	18.4	13.2	3.3	3.5	46.0	0	0	0	0	0	0	0	0	0	0.0	0.0	0	0	0	0	0	0.0	0.0	0.0	0	38.1	46.0	0.0	56.0	0.0	80.0	0.0	42.0
		SW	68.4	7.6	0.0	76.0	76.0	58.9	20.0	2.9	8.8	60.5	0	0	31	0	0	1	0	1	0	14.4	2.0	0	1	2	30	2	0.0	0.0	0.0	0	89.4	51.0	1.0	40.0	20.0	32.0	17.0	0.0
		SE	0.0	5.6	0.0	5.6	5.6	21.4	12.4	3.3	3.8	51.0	0	0	0	0	0	0	0	0	0	0.0	0.0	0	0	0	0	0	0.0	0.0	0.0	0	42.7	51.0	1.0	0.0	0.0	0.0	0.0	45.0
Washington	Alley between	NE	0.0	4.2	17.0	4.2	4.2	7.6	0.0	0.0	3.7	19.0	0	0	0	0	0	0	0	0	0	0.0	0.0	0	0	0	0	0	2.0	0.0	0.2	0	28.6	19.0	0.0	0.0	0.0	0.0	0.0	0.0
	Kirkwood & 6th	SE	0.0	0.0	0.0	0.0	0.0	7.6	0.0	0.0	0.8	19.0	0	0	0	0	0	0	0	0	0	0.0	0.0	0	0	0	0	0	2.0	0.0	0.2	0	7.6	19.0	0.0	0.0	0.0	0.0	0.0	0.0
Washington	3rd	SW	0.0	6.0	0.0	6.0	6.0	0.0	8.0	3.7	0.9	26.0	0	0	0	0	0	0	0	0	0	0.0	0.0	0	0	0	0	0	0.0	0.0	0.0	0	17.7	26.0	0.0	161.0	206.0	207.0	21.0	0.0
		SE	0.0	10.5	0.0	10.5	10.5	10.0	14.3	2.5	2.7	44.0	0	0	0	0	0	0	0	0	0	0.0	0.0	0	0	0	0	0	6.0	0.0	0.7	0	37.3	43.0	0.0	90.0	145.0	126.0	33.0	0.0
Washington	Alley between	NE	0.0	0.0	32.5	0.0	0.0	8.6	0.0	0.0	6.4	19.0	0	0	0	0	0	0	0	0	0	0.0	0.0	0	0	0	0	0	0.0	3.0	0.3	0	41.1	19.0	0.0	0.0	0.0	0.0	0.0	0.0
	Smith & 3rd	SE	0.0	0.0	0.0	0.0	0.0	6.2	0.0	0.0	0.7	16.0	0	0	0	0	0	0	0	0	0	0.0	0.0	0	0	0	0	0	0.0	3.0	0.3	0	6.2	16.0	0.0	0.0	0.0	0.0	0.0	0.0
	(Police Entrance)																																							
Washington	Smith St.	NE	51.5	2.0	0.0	53.5	53.5	0.0	6.6	2.5	0.7	17.0	0	0	0	0	0	0	0	0	0	0.0	0.0	0	2	0	0	1	0.0	0.0	0.0	0	11.1	17.0	0.0	0.0	0.0	35.0	8.0	0.0
		SE	0.0	21.2	0.0	21.2	21.2	7.4	15.6	4.1	2.6	31.0	0	0	0	22	0	1	0	0	0	5.7	1.5	1	1	0	0	3	7.0	0.0	4.8	1	48.3	30.0	0.0	0.0	0.0	0.0	0.0	0.0
6th	Rogers St.	NW	0.0	3.0	0.0	3.0	3.0	16.7	8.9	2.3	2.8	18.0	0	0	0	0	0	0	0	0	0	0.0	0.0	0	0	0	0	1	11.0	0.0	1.2	0	30.9	18.0	0.0	42.0	36.0	66.0	12.0	0.0
		NE	0.0	2.5	0.0	2.5	2.5	16.7	7.4	2.3	2.7	17.0	0	0	0	0	0	0	0	0	0	0.0	0.0	0	0	0	0	0	11.0	0.0	1.2	0	28.9	17.0	0.0	66.0	22.0	66.0	22.0	0.0
		SW	0.0	3.4	0.0	3.4	3.4	16.7	7.4	2.3	2.7	31.0	0	0	0	0	0	0	0	0	0	0.0	0.5	1	0	0	0	1	14.0	0.0	1.6	0	29.8	31.0	0.0	0.0	0.0	0.0	0.0	0.0
		SE	0.0	3.4	0.0	3.4	3.4	16.7	7.4	2.3	2.7	20.5	0	0	0	0	0	0	0	0	0	0.0	0.0	0	0	0	0	0	14.0	0.0	1.6	0	29.8	20.5	0.0	0.0	0.0	0.0	0.0	0.0
6th	Madison St.	NW	0.0	15.6	0.0	15.6	15.6	20.2	19.9	2.5	4.5	124.0	0	0	0	0	0	0	0	0	0	0.0	0.0	0	0	0	0	0	46.0	0.0	13.1	0	58.2	59.0	1.0	60.0	16.0	72.0	15.0	0.0
		NE	0.0	1.3	0.0	1.3	1.3	4.8	6.1	2.3	1.2	11.0	0	0	0	0	0	0	0	0	0	0.0	0.0	0	0	0	0	0	3.0	0.0	0.3	0	14.5	11.0	0.0	54.0	15.0	64.0	15.0	0.0
		SW	0.0	17.2	0.0	17.2	17.2	29.2	25.8	3.0	6.1	136.0	0	0	0	0	0	16	0	0	0	1.0	0.5	0	0	0	6	0	52.0	0.0	16.8	1	75.2	72.0	2.0	66.0	22.0	56.0	15.0	0.0
		SE	0.0	2.4	0.0	2.4	2.4	20.0	10.6	2.7	3.4	33.0	0	0	0	0	0	0	0	0	0	0.0	0.0	0	0	0	0	0	6.0	0.0	0.7	0	35.7	20.0	1.0	60.0	18.0	64.0	15.0	0.0
6th	Morton St.	NW	38.7	9.0	0.0	47.7	47.7	47.7	24.1	3.6	8.0	83.0	24	0	0	0	0	1	0	0	0	6.1	1.0	1	0	0	0	3	0.0	0.0	0.0	1	84.4	77.0	2.0	96.0	33.0	80.0	16.0	0.0
		SW	0.0	9.5	0.0	9.5	9.5	59.0	24.4	3.6	9.3	91.0	0	0	0	6	0	1	0	0	0	3.0	1.0	0	0	0	0	2	0.0	0.0	0.0	1	96.5	72.0	1.0	88.0	44.0	56.0	15.0	0.0
		SE	0.0	8.0	0.0	8.0	8.0	49.3	20.4	3.6	7.7	61.0	6	13	0	0	0	0	1	0	1	1.0	0.5	0	0	0	0	1	0.0	0.0	0.0	1	81.3	48.0	1.0	66.0	18.0	152.0	51.0	0.0
6th	Alley between	SW	7.7	0.0	18.2	7.7	7.7	9.7	0.0	0.0	4.1	19.0	0	0	0	0	0	0	0	0	0	0.0	0.0	0	0	1	0	0	3.0	0.0	0.3	0	27.9	19.0	0.0	0.0	0.0	0.0	0.0	0.0
	Washington	SE	0.0	0.0	0.0	0.0	0.0	8.0	0.0	0.0	0.9	17.0	0	0	0	0	0	0	0	0	0	0.0	0.0	0	0	0	0	0	0.0	0.0	0.0	0	8.0	17.0	0.0	0.0	0.0	0.0	0.0	0.0
	and Lincoln																																							
6th	Alley between	SW	22.0	0.0	0.0	22.0	22.0	13.3	0.0	0.0	1.5	22.5	0	0	0	0	0	0	0	0	0	0.0	0.0	0	0	0	0	0	4.0	0.0	0.4	0	13.3	22.5	1.0	0.0	0.0	0.0	0.0	0.0
	Grant St. and	SE	0.0	0.0	0.0	0.0	0.0	4.5	0.0	0.0	0.5	10.0	0	0	0	0	0	0	0	0	0	0.0	0.0	0	0	0	0	0	0.0	0.0	0.0	0	4.5	10.0	0.0	0.0	0.0	0.0	0.0	0.0
	Dunn St.																																							
6th	Dunn St.	NW	134.0	7.0	0.0	141.0	141.0	47.3	32.4	3.0	8.9	61.0	0	0	0	0	0	0	0	0	0	0.0	0.0	1	0	0	0	0	2.0	3.0	0.6	0	89.7	51.0	2.0	30.0	54.0	40.0	23.0	0.0
		NE	9.6	7.8	0.0	17.4	17.4	36.4	26.3	2.8	7.0	70.0	0	0	0	0	0	0	0	0	0	0.0	0.0	0	0	0	0	0	1.5	10.0	1.3	0	73.3	55.0	2.0	30.0	40.0	48.0	23.0	0.0
		SW		6.5	0.0	6.5	6.5	18.7	26.5	3.0	5.0	57.0	0	0	0	0	0	0	0	0	0	0.0	0.0	0	0	0	0	0	9.0	0.0	1.0	0	54.7	53.0	1.0	0.0	0.0	48.0	0.0	0.0
		SE		6.2	0.0	6.2	6.2	27.7	26.6	2.8	6.0	54.0	0	0	0	0	0	0	0	0	0	0.0	0.0	1	0	0	0	0			0.0	0	63.3	42.0	0.0	30.0	36.0	40.0	0.0	0.0
Undistributed								20.0			20.0	20.0															2												
TOTALS			**377.8**	**190.8**	**98.8**	**568.6**	**568.6**	**754.3**	**421.7**	**74.1**	**164.9**	**1668.5**	**30**	**13**	**31**	**28**	**16**	**4**	**1**	**1**	**1**	**31.3**	**7.0**	**6**	**6**	**2**	**36**	**16**	**268.6**	**19.0**	**73.0**	**5**	**1519.7**	**1351.5**	**23.0**	**1083.0**	**811.0**	**1380.0**	**320.0**	**87.0**
UNITS			**SYS**	**SYS**	**SYS**	**SYS**	**SYS**	**SYS**	**SYS**	**SYS**	**CYD**	**LFT**	**LFT**	**LFT**	**LFT**	**LFT**	**LFT**	**EACH**	**EACH**	**EACH**	**EACH**	**CYD**	**CYD**	**EACH**	**EACH**	**EACH**	**LFT**	**EACH**	**SYS**	**CYD**	**CYD**	**EACH**	**SYS**	**LFT**	**EA**	**LFT**	**LFT**	**LFT**	**LFT**	**LFT**
TOTALS			**377.8**	**190.8**	**98.8**	**568.6**	**46.9**	**754.3**	**421.7**	**74.1**	**326.5**	**1668.5**	**30.0**	**13.0**	**31.0**	**28.0**	**16.0**	**4.0**	**1.0**	**1.0**	**1.0**	**31.3**	**7.0**	**6.0**	**6.0**	**2.0**	**36.0**	**16.0**	**268.6**	**19.0**	**73.0**				**23.0**	**1083.0**	**811.0**	**1380.0**	**320.0**	**87.0**
PAY UNIT			**SYS**	**SYS**	**SYS**	**SYS**	**TON**	**SYS**	**SYS**	**SYS**	**TON**	**LFT**	**LFT**	**LFT**	**LFT**	**LFT**	**LFT**	**EACH**	**EACH**	**EACH**	**EACH**	**CYD**	**CYD**	**EACH**	**EACH**	**EACH**	**LFT**	**EACH**	**SYS**	**CYD**	**CYD**				**EA**	**LFT**	**LFT**	**LFT**	**LFT**	**LFT**

NOTE:

ALL REMOVAL ITEMS TO BE PAID AS CLEARING INCLUDING STRUCTURE REMOVAL,PIPE REMOVAL.

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MICHAEL J. MAHIS REGISTERED No. 10200108 STATE OF INDIANA PROFESSIONAL ENGINEER

RECOMMENDED FOR APPROVAL Michael D Lewis 2-15-2019
DESIGN ENGINEER DATE

DESIGNED: MT DRAWN: SCS

CHECKED: BR CHECKED: BR

CITY OF BLOOMINGTON
PLANNING AND TRANSPORTATION

MISCELLANEOUS SUMMARY OF QUANTITIES TABLE

HORIZONTAL SCALE	
N/A	
VERTICAL SCALE	DESIGNATION
N/A	
SURVEY BOOK	SHEETS
	15 of 16
CONTRACT	PROJECT