CITY OF GRIFFIN, GEORGIA

REQUEST FOR PROPOSAL

BID #20-014
FOR

PROFESSIONAL DESIGN SERVICES –

SOLOMON STREET INTERSECTION IMPROVEMENTS

For all questions about this Bid contact:

Brian Upson, Paragon Consulting Group
bupson@pcgeng.com

Deadline:
June 30th 2020 at 2:00 P.M.

IMPORTANT
SUBMITTAL REQUIREMENT

Submittals must be properly labeled to ensure they are not inadvertently opened before the designated time. Affix the label below to the outside of the sealed submittal envelope or delivery package.

If this label is not used (i.e. in case of some delivery services), it is the supplier's responsibility to ensure that the information is on the OUTSIDE of the delivery package. Submissions that do not comply may be rejected.

Submittals must also include the required number of copies specified in section 1.2.

Please make sure either the label below or the information on the label appears on the **OUTSIDE of the delivery package** and is clearly visible. There may be multiple solicitations open at any given time and if the sender organization and bid number are not discernable, your response may not be recorded as properly received.

RESPONSE SUBMITTAL

DELIVER TO:
CITY OF GRIFFIN
PROCUREMENT – 3RD FLOOR
100 S HILL STREET
PO BOX T
GRIFFIN, GA 30224

BID/PROPOSAL #: RFP 20-014

BID/PROPOSAL NAME: PROFESSIONAL DESIGN SERVICES – Solomon Street Intersection Improvements

DUE ON OR BEFORE: JUNE 30TH 2020 @ 2:00 PM (EST)

COMPANY NAME: _____

COMPANY ADDRESS: _____

CONTACT NAME: _____

CONTACT PHONE & EMAIL: _____

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CITY OF GRIFFIN, GEORGIA
REQUEST FOR PROPOSAL #20-014
SPECIFICATIONS for
PROFESSIONAL DESIGN SERVICES –
Solomon Street Intersection Improvements

1. SECTION I – GENERAL INFORMATION

Information in this section is proposal-specific. Any conflicting information stipulated in this section shall supersede the General Terms & Conditions noted in Sections II - V.

1.1. PURPOSE

The City of Griffin (City) is accepting proposals from qualified professional services firms to provide all personnel, materials, and services necessary to provide construction bid documents, including but not necessarily limited to, construction documents, specification, and engineer's estimate for the proposed Solomon Street Intersection Improvements.

1.2. SCHEDULE & SUMMARY

This Request will be governed by the following schedule and criteria:

	DATES
Release of Request	May 29th 2020
Pre-Conference Meeting*	Yes; June 10th 2020; **attendance highly recommended** *City Hall, 3rd Floor Conference Room* *100 South Hill St, Griffin, GA @ 10am*
Questions due	June 24th 2020 by 2:00 PM
Responses due	June 30th 2020 by 2:00 PM
# of Response Submittals Required	Six, including the marked original, **plus** one electronic copy
Public opening	No
Bonds required	No
Professional Liability Insurance	Yes
Project manager	Brian K. Upson, P.E.; bupson@pcgeng.com

* The purpose of this meeting will be to provide those interested with an oral presentation of the City's requirements and to allow for the presentation of questions. Although attendance at the pre- conference meeting is not mandatory, it is considered as part of the evaluation criteria and **attendance or non- attendance will be graded accordingly in the evaluation scores**. All interested parties are 'strongly' urged to attend. No other meeting is planned.

1.3. SCOPE OF WORK

The services to be furnished by the consultant shall be those necessary to design, engineer, and cost the realignment and potential right-of-way of the intersection of CS 103705/ CS 78305 East Solomon Street at CS 103205/Searcy Ave and CS 103705/Spalding Street, at Norfolk Southern railroad crossing in order to increase the safety and efficiency of automobile and pedestrian traffic. Consultant shall follow the Plan Development Process as outlined in the Georgia Department of Transportation guidelines.

PROJECT AREA:

The work to be accomplished under this contract is divided into the following tasks:

1.3.1. Task 1 – Existing Conditions and Technical Analysis.

The consultant will conduct a thorough review and assessment of previous plans existing conditions in the study area. The focus of the assessment will include the following:

- Review of existing plans and ongoing projects in the surrounding area.
- Prepare a detailed survey of existing physical conditions, including existing rights of way, and property, conflicting utilities, topography, structures and other potential constraints to proper horizontal and vertical alignments.
- A current and accurate ground run (two [2] foot contour interval) topographic survey is required and it must be provided in hard copy as well as a digital copy i.e. a CAD file. Survey shall include local issuing authority requirements for setbacks, zoning, buffers, surrounding land use and zonings.
- The Consultant should plan to provide the City with geotechnical exploration report findings, if necessary. The City will secure off-site easements and construction encroachment agreements for off-site construction, if necessary.
- The consultant will collect all necessary traffic volume and turning movement data required for the development of the project.
- The City will provide additional base data (GIS grade) information as identified during the design process and as the project progresses. This additional base data may be required due to submittal requirements or findings made during the design process.
- Consultant will coordinate and incorporate utilities data at a SUE Level B standard at minimum.

1.3.2. Task 2 – Utility and Railroad Design Coordination

The consultant will coordinate with all applicable utility companies and Norfolk Southern to obtain

details of facility locations and identify any conflicts and incorporate necessary utility and rail coordination relocations/redesigns into the plans. This effort will include providing a monthly utility coordination meeting(if requested by the City), distributing design files to utility providers, necessarily follow up (log of correspondence) and meetings with utility providers and plan edits.

1.3.3. Task 3 – Schematic Drawings

Consultant will prepare schematic concept/site plans as necessary for the City's review and approval. Approval of schematic drawings with any associated redline comments is required (in writing) prior to commencement of construction documents. Synchro models and reports shall be provided for all schematic site plans. A summary of the intersection delay and lane-group delay should also be included for each schematic site plan.

1.3.4. Task 4 – Site Work Construction Drawings

Consultant will prepare construction drawings for site work related items based on approved preliminary design. These drawings may be combined as determined by Consultant. These site work construction drawings will consist of but not be limited to:

A. Demolition & Removal Plan addressing existing improvements that need removal, replacement or adjustment for new construction.
B. Layout, Paving & Signage Plan that will include layout of curbs, sidewalks, required ADA access and related site improvements.
C. Grading & Drainage Plan to include sight/stopping distance profiles and that will include proposed grading for the site improvements, existing and proposed contours, spot elevations, storm drainage system, water quality system, and general notes.
D. Erosion, Sedimentation, and Pollution Control Plan(s) that will include Georgia Soil and Water Conservation Commission required checklist information pursuant to disturbed area for the project.
E. Site Work Construction Details for related site improvements (City of Griffin and Georgia DOT standards.)

1.3.5. Task 5 – Bid Support

Consultant at a minimum should provide planning level cost estimates which will be refined during the design process. They will prepare mean summary bid quantities per GDOT specifications for City's use in bidding and will provide support including but not limited to bid review and response to bidder's questions. They will also need to provide limited construction management services to support the city of Griffin Construction Manager in addressing conflicts/ questions related to the design and answer any requests for information (RFIs) related to their design, etc.

1.4. SCHEDULE OF PERFORMANCE

Milestone	Date
Draft Final Report and Products due to City of Griffin	TBD
City Comments to Consultant	TBD
All Deliverables Received by City of Griffin	TBD

1.5. PROCESS

All responses received will be reviewed by the Procurement Agent to ensure they meet the administrative requirements. All submissions that meet the administrative requirements will be turned over to the Evaluation Committee for further assessment. The Evaluation Committee will review all responses received and determine a ranking based on the information provided and invite the top firms for confirmation interviews for the final short-list. The City reserves the option of requesting presentations be additionally made to its Board of Commissioners. Selection of firms to participatein the next stage of this process will follow the proposal-interview process.

1.6. RESPONSE SUBMISSION

The responses are to be packaged with one original and five (5) copies for a total of six (6) hard copies and one electronic copy. **Note that all "marketing information" that is included with your response must be separate from the submittal.** Responses are to be ordered and include the following:

1.6.1. The Submittal Cover Page. The cover page is supplied on page 23.

1.6.2. Transmittal Letter. The short Transmittal Letter must:

- Summarize why the respondent believes itself to be the most qualified;
- Contain the statement that to the best of the respondent's abilities, all information contained in the RFP submittal is complete and accurate;
- Contain a statement granting representations of the City authorization to contact any previous client for purposes of ascertaining an independent evaluation of the respondent's performance;
- Contain at least one copy of the transmittal letter with the original signature of an officer of the principal firm.

1.6.3. Narrative. The Narrative should be organized to clearly address:

- Philosophy and approach to the project in general;
- Prior experience with projects of similar scale and complexity;
- Prior experiences with public-sector clients and processes for projects of similar scale and complexity;
- Professional qualifications of personnel assigned to the project;
- History of effective schedule and budget management for projects of similar scale and complexity;
- Use of processes that creatively engage staff and other stakeholders in all stages;
- Commitment to the City of Griffin.

1.6.4. Background. Include a complete narrative description of the responding firm (or firms if the respondent is comprised of a team of firms). Information should include:

- Firm history;
- Location of home and branch offices;
- Names of the principal officers of the firm;
- Identification of the team sub consultants, if any;
- Organization Chart: Include a simple organization chart showing how the respondent, if selected, would organize its key personnel for the project;
- Key Professionals: Identify the key members of your team that would be involved in the project and describe their area of expertise and what role they will perform. Indicate their availability for this project;
- Resumes: Provide resumes of any person identified as a key professional. The resumes should contain the following;
  - Name;
  - Educational background;
  - Employment history;
  - Proposed role in the project;
  - An identification of other relevant projects in which the person has been involved and a name/phone number of a representative of any project cited that can be contacted for a reference;
  - Other information that may be deemed relevant.

1.6.5. Qualifications: Project team must be pre-qualified in all GDOT area classes relevant to project scope. Team members shall list qualifications.

1.6.6. Relevant Experience. Include a summary of relevant projects. List a minimum of three and maximum of five relevant and recent projects. A relevant project is one which best exemplifies your qualifications for this project, your approach to solving complex problems, and successful coordination with stakeholders

- Name of project;
- Project location;
- Project description;
- Describe the services your firm provided;

- Indicate which team members were actually involved in the project and specify their role;
- Describe any special challenges or issues encountered during the project and the resolution;
- Provide a statement acknowledging if the project was completed on time and within budget;

1.6.7. Project Understanding. Summarize your understanding of the project and your approach to it.

1.6.8. Supplier Registration. While there are no Administrative restrictions on submitting a response to any bid or Request, a supplier must be registered and compliant (have both required documents) with the City in order to be awarded any type of contract. Instructions for registering as a supplier can be found on page 30. This registration will be used for bid notifications as well as sourcing for general projects by the departments. It is important to note that the registration must be completed online and must have a W9 and EV document in order to be considered compliant. In addition to selecting as many commodities as are applicable, you can link your website to the registration profile.

1.6.9. Proposal Information. All proposals should be limited to 10 pages, excluding cover page, resumes of assigned personnel, references and page delineators.

1.7. EVALUATION CRITERIA

It is imperative the submitted response fully address all the firm's ability to meet or exceed anticipated aspects of the subsequent RFP. The submittal must provide the City's evaluation team with clearly expressed information concerning the supplier's understanding of the City's needs as well as the ability to meet those requirements. Your responses are to be geared for information rather than marketing. The contract resulting from this RFP will be awarded to that responsible Proposer whose offer, conforming to the requirements of the RFP, is determined to be most advantageous to the City. Architectural and engineering service procurements must follow the Brooks Act and the mini Brooks Act required by state law which excludes price as an evaluation factor provided the price is fair and reasonable. Therefore, selection will be based on a comparative evaluation of professional qualifications including:

Qualifications of Proposer (35%)

The qualifications of the Proposer with appropriate license will be evaluated in terms of relevant experience in performing work of a similar nature, experience in projects funded by the Georgia Department of Transportation and the Atlanta Regional Commission's Livable Centers Initiative program, experience working with other municipalities, strength and stability of the firm, capacity to perform the required services, minimum of three (3) years as a corporation, and assessment by client references.

Proposed Project Team and Organization (35%)

The organizational structure of the Proposer will be evaluated in terms of its effective use of personnel, relevant experience and time commitment of key personnel, especially the designated Project Manager and subconsultants (if applicable), logic of project organization, adequacy of labor commitment and resources; capability to reallocate resources as needed to meet project schedules.

Detailed Work Plan and Schedule (30%)

The work plan will be evaluated to demonstrate Proposer's understanding of project scope and funding limitations, design approach, construction cost estimates, work schedule, logic, clarity, specificity, and overall quality.

The selection process that will be used is a Qualifications Based Selection (QBS) process in accordance with the Brooks Act. The basis of selection will be the best evaluated bid considering ability to meet the City's specifications and requirements. Other considerations will include, but are not limited to:

- Attendance at bid-related functions (pre-bid)
- Ability to provide requested service
- Firms Experience on Similar Projects
- Experience
- Quality of workmanship and products used
- Timeliness of project completion/delivery

- Prior bidder performance
- References
- Guarantees and warranties
- Financial solvency
- Value added services and/or options
- Training

The Selection Committee will review all proposals and determine firms that best-fit the selection criteria and will create a short-list of firms to be selected for a follow-up interview, either in person or via teleconference. The initial evaluation is to determine which, if any, firms are to be interviewed. During the interviews, the selected firms will be given the opportunity to discuss in more detail their proposal, qualifications, past experience, project plan, and their opinions as to the challenges this project faces. The City reserves the right to request product demonstrations or to conduct site visits to assess installations similar to the one proposed.

1.8. ADDITIONAL INSTRUCTIONS, NOTIFICATIONS AND INFORMATION

- This RFP is not a contract nor can it result in a contract.
- By submitting a response, Respondents represent and warrant that all information provided in the response submitted shall be true, correct and complete. Respondents who provide false, misleading or incomplete information, whether intentional or not, may be excluded;
- By submitting a response, Suppliers certify that their proposals are made without collusion or fraud and they have not offered or received any inducements in connection with their proposals. They further agree that this solicitation and any resulting contract in subsequent proposal requests shall be governed in all respects by the laws of the State of Georgia and they shall comply with applicable federal, state and local laws and regulations
- Suppliers may be disqualified from participation in the RFP process for reasons which include, but are not limited to the following:
    - Evidence of collusion;
    - Being in arrears on any of its existing contracts with the City or in litigation with the City or having defaulted on a previous contract with the City;
    - Being in arrears on taxes owed to the State of Georgia;
    - Poor, defective or otherwise unsatisfactory performance of work for the City or any other party on prior projects which, in the City's judgment and sole discretion, raises other party on prior projects which, in the City's judgment and sole discretion, raises party on prior projects which, in the City's judgment and sole discretion, raises doubts as to Supplier's ability to properly perform the work;
    - Any offering of gifts, unauthorized compensation or other unethical actions to City employees with respect to interest in any business activity; or
    - Any other cause which, in the City's judgment and sole discretion, is sufficient to justify disqualification of the Supplier or the rejection of their submittal.

CITY OF GRIFFIN, GEORGIA

REQUESTS FOR PROPOSAL, INVITATIONS TO BID

GENERAL PROVISIONS

Sections II - VII review the general terms and conditions. **Any bid-specific information noted in Section I or in the Specifications & Response Section will take precedence.**

2. SECTION II – GENERAL TERMS AND CONDITIONS

All available information, notices and addenda regarding this RFP shall be posted on the City's website. Effective July 1, 2018, House Bill 489 requires that any solicitation extended by a municipal corporation for goods and services valued at $10,000 or more and any solicitation opportunity extended for public works subject to Chapter 91 of Title 36 of the O.C.G.A. also be posted on the Georgia Procurement Registry (GPR).

It is the Supplier's responsibility to check the City's website in order to confirm they have the most current information prior to submitting a response. Subsequent to the opening, all status notices will also be posted on the City's website.

2.1. RESTRICTIONS ON COMMUNICATIONS WITH STAFF

All questions about this bid must be submitted in the following format:

Company Name
- Question
  Citation of relevant section of the bid

All questions regarding specification/technical issues must be in writing to the Project Manager for this bid (with a 'cc' to Procurement). The Project Manager, contact email, and deadline for questions is noted in section 1.2.

All questions regarding administrative issues must be in writing to the Project Manager:

Address: Brian Upson

Project Manager
Paragon Consulting Group
P. O. Box 799, Griffin, GA 30224

Email: bupson@pcgeng.com

No questions other than written will be accepted. No response other than written will be binding upon the City. Questions will be combined into one list of questions and responses and will be posted as an addendum.

From the issue date of this request until an award has either been made or deemed closed for other reasons, institutions or individuals providing submissions are not permitted to communicate with members of the commission, the evaluation team or City employees, other than Procurement, with regard to the purpose or intent of this document. The exception to this is the submission of written technical questions to the project manager with Procurement copied. The City reserves the right to reject the submission of the offending supplier if this provision is violated.

Any updates or changes to this and related documents will be posted on the City's website (https://vrapp.vendorregistry.com/Bids/View/BidsList?BuyerId=52b8c206-866a-4ed2-b7b8-bef7db8a901b) or by selecting "Resources" and then "Bid Opportunities" from the City home page. **It is the Supplier's responsibility to refer to the website for any addenda or other pertinent information before responding to this ITB request**.

2.2. PUBLIC DISCLOSURE AND PROPRIETARY INFORMATION

All bids and any other public record with respect to solicitation shall be subject to public inspection, upon request, after the posting of the Notice of Intent to Award (NOIA) or Notice of Award (NOA). This is being done in order to protect the integrity of the procurement process unless otherwise required by law. For any Open Records requests, the City may assess fees for the costs of producing these public records as permitted by the Georgia Open Records Act.

Exceptions to the availability of information include 1) bona fide trade secrets meeting confidentiality requirements that have been properly marked and documented; 2) matters involving individual safety as determined by the City; 3) company financial information requested by the City to determine supplier responsibility; and 4) other constitutional protections. All documents that are to be proprietary and confidential are to be clearly marked as such.

Information received in response to this bid request will become the property of the City and will not be returned. If a proposer feels that any information is confidential or proprietary in nature, the proposer must prominently mark and initial such information as "PROPRIETARY INFORMATION". The City will not release or divulge such information to third parties without the consent of the Proposer unless required to do so by applicable law or order a court of competent jurisdiction.

3. SECTION III –OVERVIEW AND PROCEDURES

Sections II - VII review the general terms and conditions. **Any bid-specific information noted in Section I or in the Specifications & Response Section will take precedence.**

3.1. COMPANY BACKGROUND & EXPERIENCE

Suppliers that have not contracted with the city in the past 2 years should provide a list of clients for whom similar services, as detailed in this bid, have been provided during the past 3-4 years. References must be for the organization or person submitting the bid. Subcontractor's references are not acceptable.
The list must include:
Dates of service
Name of contact person
Title of contact person
Phone number of contact person

The Supplier will also disclose any services terminated by the client(s) and the reason(s) for termination. Failure to provide this information will disqualify the bid submission.

3.2. REFERENCES

References should be for historical projects of similar size and scope. Details regarding these references are noted on the Reference page.

3.3. BID REQUIREMENTS

3.3.1. SPECIAL CONDITIONS

By submitting a bid response, Suppliers certify that their proposals are made without collusion or fraud and they have not offered or received any inducements in connection with their proposals. They further agree that this solicitation and any resulting contract shall be governed in all respects by the laws of the State of Georgia and they shall comply with applicable federal, state and local laws and regulations. Any contracts or leases resulting from the award of a Bid are to be for a period of not more than one year, with four renewal options for a total period not to exceed five years. Any exceptions to this policy must be noted and agreed to by both parties in writing, prior to the issuance of the Notice of Award. Pricing must remain firm for the duration of the initial term of the resulting contract; failure to hold firm pricing for the initial contract will be considered as sufficient cause for termination. Proposal submissions must remain valid for a minimum period of ninety (90) days after the submission due date unless otherwise stipulated.

The City reserves the right to reduce or increase the scope of the project if the lowest responsible and responsive supplier's submittal is not in line with the budgeted amount for the project. The City, at its sole discretion, reserves the right to increase or decrease the scope of work to facilitate an award. This scope reduction will be enacted only if it is in the best interest of the City and constitutes no guarantee of scope.

The City also reserves the right to add to the contract any future work or purchased goods, with the agreement of the supplier, at prices offered in this bid document. This option will be enacted during the contract or within six months subsequent to the end of the contract, if in the best interest of the City and with the agreement of both parties.

3.3.1. RESPONSES

In responding to a bid, ALL item numbers with appropriate formatting must show some type of acknowledgment in order for the response to be properly evaluated. Failure to respond to all specification criteria items may be deemed as sufficient reason to reject a submission. If formatting is not provided for a response at the item level, any non-compliance must be clearly marked, detailed and included with the bid response. Any items not identified shall be deemed as in compliance. Suppliers must: 1) complete any/all required forms; 2) indicate agreement or disagreement on each mandatory requirement and, if requested, provide additional information on how the specifications will be exceeded or not met; and 3) provide complete and detailed responses to any and all non-mandatory requirement that can be fulfilled.

If determined to be in the City's best interests, a Best and Final Offer (BAFO) may be requested. A BAFO may be requested when:

- The prices for all responsive and responsible submittals exceed budget;
- No single responsive and responsible submittal meets all requirements;
- When all responses are unclear or deficient in one of more areas;
- When the grading scores of two or more submittals require additional evaluation;
- At the discretion of the evaluation team to clarify submittals or to negotiate costs or other deliverables.

3.3.2. PACKAGING OF BID

Submissions must be by the following method:
No e-mail, fax or scanned submissions will be accepted. Hard copies are to be submitted in a sealed package containing an unbound original and the number of copies specified in Section I. The sealed package must be labeled on the outside as follows:

(Supplier Name)
BID # (Bid Number)
(Bid Title)

Supplier response to this bid must consist of the following documents in addition to any bid-specific information requested:

- **Pricing**
- **Schedule of proposed work (when applicable),**
- **Completion Schedule (when applicable),**
- **Supplier Registration is to be completed online, with the following forms needing to be uploaded**
  - **Supplier Affidavit (E-Verify) (*available online*),**
  - **W-9 (*available online*),**
  - **Some responses may require an additional notarized Supplier affidavit. (See section 1.4),**
    - *The City cannot award to a supplier that is not registered and compliant,*
- **Tax Compliance form (required if over $99,000) (*supplied if required*),**
- **Reference list of a minimum of three (3) references (*supplied*).**

3.3.3. SUBMISSION OF BID

The original and specified copies of the bid response must be delivered to the Procurement Department no later than **the time and date specified in Section I. Any bid received after stated time or delivered to department other than Procurement will not be accepted. The City of Griffin will not be responsible for any responses not received by the Procurement Department prior to the deadline.**

Bids must be submitted to:

City of Griffin
Attention: Brant Keller, Director Public Works and Utilities
P. O. Box T, Griffin, GA 30224

Or delivered to:

Attention: Brant Keller, Director Public Works and Utilities
100 S Hill Street, 3rd Floor
Griffin, GA 30223

***Note: Notify Project Manager via email (bupson@pcgeng.com) if submittal is mailed via Post Office (USPS).**

3.3.4. ALTERNATE BID DOCUMENTS

Documents prepared by the City must be used for the submission of Bid Response. Alternate bids or bids that deviate from the requirements of this solicitation may not be considered. Suppliers shall not insert in their submission any written statement which will have the effect of making any material change or changes in the Scope of Services or in any contract between the parties covering the subject matter thereof.

3.3.5. ADDITIONAL INFORMATION/ADDENDA

The City will issue responses to inquiries and any other corrections or amendments it deems necessary in written addenda issued prior to the bid opening date. Suppliers should not rely on any representations, statements, or explanations other than those made in this Invitation to Bid and its' addendums. Where there appears to be a conflict between the Invitation to bid and any addenda issued, the last addendum issued will prevail. It is the Supplier's responsibility to check for addendums (under Bid Opportunities) on the City's website.

Suppliers must acknowledge any issued addenda. Bids which fail to acknowledge the supplier's receipt of any addendum will result in the rejection of the bid if the addendum contains information which substantively changes the City's requirements.

3.3.6. PROPOSAL PRICING, ERRORS AND OMISSIONS

3.3.6.1. In the event there is a discrepancy between a unit price submitted and the extended price, the unit price will prevail.

3.3.6.2. All corrections, changes or erasures to the proposal submission are to be initialed in ink.

3.3.7. WITHDRAWAL OF BID

A supplier may withdraw his bid before the submittal deadline without prejudice to the supplier by submitting a written request of withdrawal to the Procurement Analyst.

3.3.8. LATE SUBMITTAL, LATE MODIFICATIONS & LATE WITHDRAWALS

Bid submittals received after the bid opening date and time will not be accepted. Modifications received after the bid opening date will not be considered. The City assumes no responsibility for the premature opening of a bid not properly addressed and identified or not delivered to the proper designation.

3.3.9. MINIMUM BID ACCEPTANCE PERIOD

Bids shall be valid and may not be withdrawn for a minimum period of 90 days from the date specified for receipt of bids. Suppliers will be asked for an 'expiration date' for the bid submitted, when appropriate. This does not impact the contract price once a bid has been awarded.

3.3.10. DISQUALIFICATION OF BIDS OR SUPPLIERS

Suppliers may be disqualified from participation in the bid process for reasons which include, but are not limited to the following:

3.3.10.1. Evidence of collusion;

3.3.10.2. Attempting to manipulate the submittal pricing for its' own benefit (i.e. pricing resulting in a failure of the City's ability to enforce the Contract or impose the remedies intended following breach by Supplier);

3.3.10.3. Being in arrears on any of its existing contracts with the City or in litigation with the City or having defaulted on a previous contract with the City;

3.3.10.4. Being in arrears on taxes owed to the State of Georgia;

3.3.10.5. Poor, defective or otherwise unsatisfactory performance of work for the City or any other party on prior projects which, in the City's judgment and sole discretion, raises other party on prior projects which, in the City's judgment and sole discretion, raises party on prior projects which, in the City's judgment and sole discretion, raises doubts as to Supplier's ability to properly perform the work;

3.3.10.6. Any offering of gifts, unauthorized compensation or other unethical actions to City employees with respect to interest in any business activity; or

3.3.10.7. Any other cause which, in the City's judgment and sole discretion, is sufficient to justify disqualification of the supplier or the rejection of their submittal;

3.3.11. REJECTION/CANCELATION/AWARD OF BIDS

The City reserves the right to:

a) reject any and all submittals received outside the time/place stated in the notice;
b) reject any submittals which show omissions, irregularities, alteration of forms or unsolicited responses;
c) waive any minor technicalities of form, or formalities of the responses without prejudice to other responses;
d) reject any or all bids or any part thereof;
e) obtain clarification on any point in a respondent submittal or obtain additional information;
f) accept the bid that is in the best interest of the City, regardless of whether or not it is the lowest bid;
g) award the bids received on the basis of individual items or on the entire list of items.

The City also reserves the right to cancel this bid at any time and will not be liable for any cost/losses incurred by the Supplier throughout this process.

Where applicable, the City reserves the right to make multiple awards or to award a contract by individual line items or alternatives, by group of line items or alternatives, or to make an aggregate award, whichever is deemed most advantageous to the City. If the City determines that an aggregate award to one supplier is not in the City's best interest, "all or none" offers will be rejected.

3.3.12. COST INCURRED BY SUPPLIERS

All expenses involved with the preparation and submission of the bid to the City, or any work performed in connection therewith, is the responsibility of the supplier(s).

3.3.13. BID OPENING

All bids will be opened on the pre-determined bid opening date. The bid details and related documents will not be publicly announced or reviewed at the bid opening; they will be turned over to an evaluation committee. No awards will be made or implied at this time. The Status field on the City's website will be updated following any change in the Bid process. Refer to section 2.1 for details regarding this Status. **Any bid-specific exceptions to the 'non-public opening' will be noted in the Schedule (section 1.2)**.

3.3.14. AWARD AND RESULTING CONTRACT

Award will be made to the lowest responsive and responsible Supplier whose submittal is compliant to the terms of this bid request. The quality of the articles to be supplied, their conformity with the specifications, their suitability to the requirements of the City, the delivery terms and other criteria, as well as price, will be taken into consideration in making the award.

Any resulting contract shall not be binding upon the City nor should any action be started until it has been executed by both parties and a copy of the fully executed contract has been delivered to the successful Supplier. Specifications noted in this bid request shall be incorporated into the resulting contract. The City reserves the option to prepare and negotiate its own contract, giving due consideration to the stipulations of the supplier's proposed contract and associated legal documents.

3.3.15. PROTESTS

Protest may be filed by the affected party regarding any aspect of the solicitation, evaluation or award. All protests must be in writing, include the information listed below and directed to the Procurement Department. Protests regarding the specifications or how a solicitation was written must be filed at least seventy-two (72) hours prior to the deadline. Protests regarding the validity of the evaluation team or the evaluation process must be filed within seventy-two (72) hours of the notice to bidders. Protests regarding the recommended awardee must be filed within ten (10) days of the Notice.

3.3.15.1. FILING A PROTEST

Only suppliers intending to submit a response may protest a solicitation and only suppliers that respond to a solicitation may protest the evaluation /award. All Protests must be directed to the Procurement Department, be in writing and contain the following information in order to be valid:

3.3.15.2. The name (company), address, telephone number and email of the protestor

3.3.15.3. Signature and printed name of the protestor

3.3.15.4. Identification of the solicitation and the sections contested

3.3.15.5. A statement of reason for the protest including copies of relevant supporting documents

3.3.15.6. A description of the remedy requested.

3.3.15.7. A decision will be rendered by Procurement. Should the protest need to be escalated, it shall continue as needed through the following stages: City Attorney, Board of Commissioners, court system.

3.4. INSPECTION AND ACCEPTANCE OF EQUIPMENT (FOR PURCHASE)

Where applicable, all items bid and furnished that are to be purchased must be completely new, free from defects and operate as intended unless otherwise specified in writing. Discontinued, remanufactured or demonstrator items will not be accepted unless specifically requested. The manufacturer's standard warranty shall be identified and copies of the warranties are to be presented upon request. In addition, all items supplied shall comply with all Federal and State regulations, applicable and effective on the date of acceptance. All items must meet or exceed all existing Federal, State and Local health, safety, lighting, emissions and noise standards.

The City reserves the right to inspect and test any equipment being offered in the bid prior to making any award. The City may also request a demonstration or site visit for evaluation purposes. The equipment delivered under this bid shall remain the property of the seller until a physical inspection of the equipment is made and accepted by the City. In the event that the equipment supplied to the City is found to be defective or does not conform to the City's specifications, the City reserves the right to cancel the order upon written notice to the seller and to return the equipment to the seller at the seller's expense.

3.5. STATEMENT OF EXPERIENCE AND QUALIFICATIONS

The supplier may be required, upon request, to prove to the satisfaction of the City that he/she has the skill and experience and the necessary facilities and ample financial resources to perform the contract(s) in a satisfactory manner and within the required time. If the available evidence of competency of any supplier is not satisfactory, the response of such supplier may be rejected. The City reserves the right to request clarifications of any response or to conduct discussions for the purpose of clarification. Any clarifications made as a result of these discussions are to be provided in writing.

3.6. NON-COLLUSION AFFIDAVIT

By submitting the notarized signature in the response, the Supplier represents and warrants that such response is genuine and real and not made in the interest or on behalf of any person not therein named. It is further warranted that the Supplier has not directly or indirectly solicited any other Supplier to put in a sham submittal, or any potential Supplier to refrain from submitting and that the Supplier has not in any manner sought by collusion to secure any advantage over any other Supplier. By submitting a response, the Supplier represents and warrants that no official or employee of City has, in any manner, an interest directly or indirectly in the RFP or in the contract which may be made under it, or in any expected profits to arise therefrom. It is further warranted that the Supplier is independent of the City.

3.7. HOLD HARMLESS AND INDEMNIFICATION

The Supplier agrees, insofar as it legally may, to indemnify and hold harmless the City, its officers, employees and agents from and against all loss, costs, and expenses, including attorneys' fees, claims, suits and judgments in connection with injury to or death of any person or persons or loss of or damage to property resulting from any and all operations performed by Supplier, its officers, employees, and agents under any of the terms of this contract.

3.8. BID BONDS (Bid, Performance, Payment)

For any bid as required and noted in Section 1 of this bid document, a one hundred ten percent (110%) Performance bond and a one hundred ten percent (110%) Payment bond shall be furnished payable to, in favor of, and for the protection of the City. When Bid bonds are required, they must be in a sum equal to five percent (5%) of the total amount of the supplier's response and may be in the form of a surety issued bond or cashier's check made payable to the City of Griffin. Bid bonds are returned to the unsuccessful suppliers when the Notice of Award has been issued or contract has been executed. When bonding is required, failure to submit appropriate bonding will result in automatic rejection of bid. Performance and/or Payment bonds must be presented within ten (10) days of the Notice of Intent to Award or prior to the award of contract, whichever is later. Surety companies executing bonds must appear on the Treasury Department's most current publication (Circular 570 as amended) and be authorized to do business in Georgia. Unless otherwise specified, bonds shall be in effect for a period of one year from the completion of the project. The bond amounts shall be increased as the contract amount is increased. No alternative securities are currently accepted in lieu of performance or payment surety bonds.

4. SECTION IV – OTHER GENERAL SPECIFICATIONS

Sections II - VII review the general terms and conditions. **Any bid-specific information noted in Section I or in the Specifications & Response Section will take precedence.**

4.1. LIQUIDATED DAMAGES

Pursuant to O.C.G.A. § 36-91-24, it is understood that the Notice-to-Proceed and the time for completion of the work as specified are ESSENTIAL conditions of any resulting contract and that the performance and completion of this work within the specified time is vital to the City's economic interests. If the Supplier neglects, fails or refuses to complete the work within the mutually agreed time specified, the City may impose liquidated damages for each day of non-compliance past the scheduled completion date. Unless otherwise specified in Section I of this document or in the resulting contract, liquidated damages may be assessed at a rate of 1%, with a limit of $500.00 per day of non-compliance.

4.2. FORCE MAJEURE

The City and Supplier will be excused from the performance of their respective obligations under this Contract when and to the extent that their performance is delayed or prevented by any circumstances beyond their control including but not limited to, fire, flood, explosion, strikes or other labor disputes, act of God or public emergency, war, riot, order/act of any governmental authority, provided that:

4.2.1. The non-performing party gives the other party prompt written notice within three (3) business days describing the particulars of the Force Majeure including, but not limited to, the nature of the occurrence and its expected duration, and continues to furnish timely reports with respect thereto during the period of the Force Majeure;

4.2.2. The excuse of performance is of no greater scope and of no longer duration than is required by the Force Majeure;

4.2.3. No obligations of either party that arose before the Force Majeure causing the excuse of performance are excused as a result of the Force Majeure;

4.2.4. The non-performing party uses its best efforts to remedy its inability to perform. Economic hardship of the Provider will not constitute Force Majeure. The term of the Provider shall be extended by a period equal to that during which either party's performance is suspended under this Section.

The provisions of this section shall not preclude the City from canceling or terminating any resulting award (or any order for any goods or services included herein), or from revising the scope of the Work, as otherwise permitted under this RFP.

4.3. SUPPLIER'S INVOICE

4.3.1. The Supplier shall prepare and submit invoices to the attention of the project manager at: City of Griffin, Attn: *(insert project manager name)*, PO Box T, Griffin, GA 30224. A proper invoice must include the items listed below:

(a) Name and address of the Supplier.

(b) Invoice date and invoice number. (The Supplier should date invoices as close as possible to the date of the mailing or transmission.)

(c) Purchase order number for supplies delivered or work completed.

(d) Description, quantity, unit of measure, unit price, and extended price of supplies delivered.

(e) Shipping and payment terms (e.g., shipment number and date of shipment, discount for prompt payment terms).

(f) Name and address to which payment is to be sent.

(g) Name (where practicable), title, phone number, and mailing address of person to notify in the event of a defective invoice.

(h) Any other information or documentation required by the contract (e.g., evidence of shipment).

4.3.2. A summary invoice shall be provided for all deliveries made during a billing period, identifying the delivery tickets covered therein, stating their total dollar value. A summary invoice shall be supported by receipt copies of the delivery tickets. Delivery tickets or sales slips shall contain:

(a) Name of supplier

(b) Purchase Order number

(c) Ship to Department and Address

(d) Description, Quantity, unit price, and extension of each item.

(e) Date of delivery or shipment.

4.4. TAX LIABILITY

The successful supplier will be provided with the City's Sales and Use Tax Certificate of Exemption number upon request.

4.5. PAYMENT

Payment will be made for items accepted by the City; standard terms are net 30.

4.6. ESTIMATED QUANTITIES

The quantities of items specified in the Bid Schedule are estimates only and are not purchased by this contract. If the City's requirements do not result in orders in the quantities described as "estimated", that fact shall not constitute the basis for an equitable price adjustment. Delivery shall be made only as authorized by orders issued in accordance with the Ordering clause. Subject to any limitations in the Order clause or elsewhere in this contract, the Supplier shall furnish to the City all items specified in the Bid Schedule and called for by orders issued in accordance with the Ordering clause.

4.7. ASSIGNMENT OR NOVATION OF CONTRACT

The Supplier shall not assign or transfer, whether by Assignment or Novation, any of its rights, duties, benefits, obligations, liabilities, or responsibilities under the Contract without the written consent of the City; provided, however, that assignments to banks, trust companies or other financial institutions for the purpose of securing a bond may be made without the consent of the City.

4.8. TERMINATION FOR CAUSE

The City reserves the right to terminate the resulting contract, in whole or in part, for failure to comply with any provisions of the contract as outlined by providing a written notice to the Supplier at least thirty (30) days before the effective date of termination. The Supplier will not be relieved of any outstanding responsibilities or unfinished obligations under this contract. Receipt of items by the delivery date is critical to the terms of this contract. The City considers late delivery of contract items as reasonable cause to terminate the contract.

Prior to termination, a Cure Notice will be issued by the City. The Notice will identify the problems and deadlines that need to be met to remedy the problems to avoid termination for default. If the Supplier does not respond with an acceptable action plan to remedy the default or commence to remedy the default within a period of five (5) business days (or such longer period as the City may authorize in writing) after the issuance of notice, the City may issue termination for cause.

4.9. TERMINATION FOR CONVENIENCE

The City reserves the right to terminate the resulting contract, in whole or in part, in the event the City determines that such termination is in the best interest of the City, such as an unforeseen project cancellation. Any such termination shall be effected by the delivery of a notice specifying the extent to which performance of work under the contract is termination and the date upon which the termination becomes effective. The City will payment of deliverables satisfactorily executed according to industry standards or proven loss with respect to materials, etc.

4.10. TERMINATION FOR FUND APPROPRIATION

The City may unilaterally terminate this Agreement due to a lack of funding at any time by written notice to the

Supplier. In the event of the City's termination of the resulting contract for fund appropriation, the Supplier will be paid for those services actually performed. Partially completed performance of the Agreement will be compensated based upon a signed statement of completion to be submitted by the Service Provider which shall itemize each element of performance

4.11. CHANGES

All work and materials furnished for this project shall be made in conformance with the contract documents. Changes in the scope of work or the terms and conditions of this contract may be made only by written agreement of the parties. Changes that involve an alteration to the payment amounts shall not commence until approved by the City and a Change Order has been issued.

4.12. REPORTING DISPUTES

The Supplier shall report any contract disputes and/or problems to the Procurement Analyst, both verbally and in writing within 48 hours of their occurrence.

5. SECTION V –INSURANCE REQUIREMENTS

Sections II - VII review the general terms and conditions. **Any bid-specific information noted in Section I or in the Specifications & Response Section will take precedence.**

Prior to commencing work, the Supplier shall procure and maintain at their own cost and expense for the duration of the agreement the following insurance against claims for injuries to person or damages to property which may arise from or in connection with the performance of the work or services hereunder by the Supplier, his agents, representatives, employees or Subcontractors. A Certificate of Insurance (COI) and any other documents required by the City must be submitted to the City prior to the commencement of any work. In the event of failure to supply the required documentation, the City shall have the right to recover any costs or damages incurred.

The City of Griffin, its agents, elected officials, and employees shall be included as additionally named insured with respect to all liability policies herein except the professional liability coverage and worker's compensation which shall be indicated on all applicable certificates of insurance. The insurance Certificates indicated above shall carry a written notice of change cancellation and shall be submitted in a reasonable period prior to the execution of any work under this contract. It shall be the responsibility of the Supplier to provide similar insurance for each subcontractor, or to provide evidence that each subcontractor carries his own insurance in like amounts, prior to the time such subcontractor proceeds to perform under the contract. The Supplier's insurance policy shall be primary for the additional insured, and not excess over any policy held by the additional insured.

The information described below sets forth minimum amounts and coverage and is not to be construed in any way as a limitation on the Supplier's liability.

5.1. STANDARD INSURANCE REQUIREMENTS

5.1.1. The City reserves the right to require higher insurance limits on any contract, provided notice of such requirement is stated in the solicitation.

5.1.2. *Commercial General Liability Insurance* - $1,000,000 limit per person, $2,000,000 per occurrence for property damage and bodily injury. The Supplier should indicate in the proposal and on the insurance certificate that the coverage provided is occurrence based. The City of Griffin shall be named as "additional insured" as its interest may appear and "waiver of subrogation granted". The insurance shall include coverage for the following:

- Premise/Operations
- Explosion, Collapse and Underground Property Damage Hazard (only when applicable to the project)
- Products/Completed Operations
- Contractual
- Independent Suppliers
- Broad Form Property Damage
- Personal Injury

5.1.3. *Automobile Insurance* - $1,000,000 limit per person or $2,000,000 combined single limit for property damage and personal injury.

- Owned/Leased Autos
- Non-owned Autos
- Hired Autos

5.1.4. *Umbrella Coverage*

5.1.4.1. *Workers' Compensation and Employers' Insurance* -- with benefits and monetary limits as set forth by Title 34, Chapter 9 of the O.C.G.A. Workers' Compensation coverage is required as a condition of performing work or services for the City whether or not the Supplier is otherwise required by law to provide such coverage. The Supplier shall supply the City with proof of compliance with the Workers' Compensation Act while performing work for the City by way of a COI. This proof must be received by the City prior to the commencement of work. If the Supplier does not meet the requirement for workers' compensation coverage, the certificate of insurance shall state that the contractor waives subrogation in regard to workers' compensation.

5.1.4.2. *Professional Liability/Errors & Omissions Insurance* - $2,000,000 or as per project (ultimate loss value per occurrence). Primarily E&O insurance is designed to protect the professional advice providers (i.e. consultants, financial services) or professional service-providing professionals (i.e. medical providers, lawyers).

5.2. OTHER INSURANCE PROVISIONS

5.2.1. All Coverage

5.2.1.1. Each insurance policy required by this clause shall be endorsed to state that coverage shall not be suspended, voided, canceled, reduced in coverage or in limits except after thirty (30) days prior written notice has been given to the City.

5.2.1.2. If the Supplier, for any reason, fails to maintain insurance coverage which is required pursuant to this Agreement, the same shall be deemed a material breach of contract. City, at its sole option, may terminate this Agreement and obtain damages from the Supplier resulting from said breach.

5.2.1.3. Alternatively, the City may purchase such required insurance coverage (but has no special obligation to do so), and without further notice to the Supplier, the City may deduct from sums due to the Supplier any premium costs advanced by City for such insurance.

5.2.2. Commercial General Liability and Automobile Liability Coverage

5.2.2.1. The City, members of its City Commission, boards, commissions and committees, officers, agents, employees and volunteers are to be covered as insured as respects: liability arising out of activities performed by or on behalf of the Supplier; products and completed operations of the Supplier; premises owned, leased or used by the Supplier or premises on which the Supplier is performing services on behalf of the City. The coverage shall contain no special limitations on the scope of protection afforded to the City, members of the City Commission, boards, commissions and committees, officers, agents, employees and volunteers.

5.2.2.2. The Supplier's insurance coverage shall be primary insurance as respects the City, members of its City Commission, boards, commissions and committees, officers, agents, employees and volunteers. Any insurance or self-insurance maintained by the City, members of its City Commission, boards, commissions and committees, officers, agents, employees and volunteers shall be excess of the Supplier's insurance and shall not contribute with it.

5.2.2.3. Any failure to comply with reporting provisions of the policies shall not affect coverage provided to the City, members of its City Commission, boards, commissions and committees, officers, agents, employees and volunteers.

5.2.2.4. Coverage shall state that Supplier's insurance shall apply separately to each insured against to whom a claim is made or suit is brought, except with respect to the limits of the insurer's liability.

5.2.3. Workers' Compensation and Employers' Liability and Property Coverage

The insurer shall agree to waive all rights of subrogation against the City, member of its' City Commission, boards, commissions and committees, officers, agents, employees and volunteers for losses arising from activities and operations of the Supplier in the performance of services under this Agreement *(see 5.1.4.1)*.

5.2.1. Deductibles and Self-Insured Retention

Any deductibles or self-insured retentions must be declared to the City.

5.2.2. Acceptability of Insurer

Insurance is to be placed with Georgia admitted 'A' rated carriers or better by A.M. Best's rating service.

5.2.3. Verification of Coverage

Supplier shall furnish the City with certificates of insurance and with original endorsements affecting coverage required by this clause. The certificates and endorsements for each policy are to be signed by a person authorized by that insurer to bind coverage on its behalf. The certificates and endorsements are to be received and approved by the City before work commences.

5.2.4. Subcontractors

Subcontractors must also be insured under the policies of insurance required herein.

6. REQUIRED IMMIGRATION/ENTITLEMENT AFFIDAVITS FOR GEORGIA

For the successful Suppliers contracting for physical labor or providing services with the City:

6.1. VENDOR/CONTRACTOR AFFIDAVIT

6.1.1. Pursuant to the Georgia Security and Immigration Compliance Act of 2006, the Supplier understands and agrees that compliance with the requirements of O.C.G.A. § 13-10-91 and Georgia Department of Labor Rule 300-10-1-.02 are conditions of this Agreement. The Supplier further agrees that such compliance shall be attested by the Supplier through execution of the contractor affidavit required by Georgia Department of Labor Rule 300-10-1-.07, or a substantially similar supplier affidavit. The Supplier's fully executed affidavit is attached hereto as an Exhibit and is incorporated into this Agreement by reference herein.

6.2. SUBCONTRACTORS

6.2.1. The Supplier understands and agrees that, in the event the Supplier employs or contracts with any subcontractor or subcontractors in connection with this Agreement, the Supplier shall:

6.2.1.1. Be responsible to the City for the acts and omissions of a sub-contractor or persons employed by said sub-contractor to the same extent that the Supplier is liable to the City.

6.2.1.2. Secure from each such subcontractor an indication of the employee number category as identified in O.C.G.A. § 13-10-91 that is applicable to the subcontractor;

6.2.1.3. Secure from each such subcontractor an attestation of the subcontractor's compliance with O.C.G.A. § 13-10-91 and Georgia Department of Labor Rule 300-10-1-.02 by causing each such subcontractor to execute the subcontractor affidavit required by Georgia Department of Labor Rule 300-10-1-.08, or a substantially similar subcontractor affidavit. The Supplier further understands and agrees that the Supplier shall require the executed subcontractor affidavit to become a part of the agreement between the Supplier and each such subcontractor. The Supplier agrees to maintain records of each subcontractor attestation required hereunder for inspection by the Department at any time."

7. TITLE VI –as applied through the Civil Rights Restoration Act of 1987

The CITY OF GRIFFIN, GEORGIA, in accordance with Title VI of the Civil Rights Act of 1964, 42 U.S.C. 2000d to 2000d-4, as amended by The Civil Rights Restoration Act of 1987, hereby notifies all suppliers that no person shall on the grounds of race, color, national origin, sex, age, and handicap/disability, be excluded from participation in, be denied the benefits of, or be otherwise subjected to discrimination under any program or activity conducted by the CITY regardless of whether those programs, services, and activities are federally-funded or not. Further, it will affirmatively ensure that in any contract entered into pursuant to this advertisement, disadvantaged business enterprises as defined at 49 CFR Part 23 will be afforded full opportunity to submit bids in response to this invitation and will not be discriminated against on the grounds of race, color, national origin, sex, age, handicap/disabled in consideration for an award.

Please separate and use the following pages with your response submittal. Additional pages may be used as needed. Thank you for your interest and participation in this opportunity.

CITY OF GRIFFIN, GEORGIA

RESPONSE SUBMITTAL COVER

BID #20-014
FOR

PROFESSIONAL DESIGN SERVICES –

SOLOMON STREET INTERSECTION IMPROVEMENT

Submitted by:

Name of Company:

Mailing Address:

City/State/Zip:

Phone (including area code):

E-mail:

Submittal Deadline:
June 30th 2020 at 2:00 P.M.

FAILURE TO RETURN THIS PAGE AS PART OF YOUR SUBMISSION MAY RESULT IN REJECTION OF RESPONSE

RFP 20-014

COST SUBMITTAL: PROFESSIONAL DESIGN SERVICES – SOLOMON STREET INTERSECTION IMPROVEMENTS

Company Name _____ Cost Valid Through _____

COST STRUCTURE – Complete the following and include any associated information specifics for the cost quoted.

Task 1 – Existing Conditions and Technical Analysis: . . . . . _____

Task 2 – Utility Design Coordination: . . . . . _____

Task 3 – Schematic Drawings. . . . . _____

Task 4 – Site Work Construction Drawings: . . . . . _____

Task 5 – Bid Support: . . . . . _____

Other add'l charges or fees not included above (please specify): . . . . . _____

Total cost . . . . . $_____

****

DELIVERY:

ANTICIPATED COMPLETION FROM NOTICE TO PROCEED: _____ DAYS

****

Additional comments/recommendations: _____

_____

_____

_____

_____

_____

The City reserves the right to accept or reject any or all bids and to waive any technicalities and formalities in the bidding. The City reserves the right to accept the BEST-EVALUATED BID as deemed by the Evaluation Committee, which may or may not be the lowest monetary bid.

The undersigned understands that any conditions stated above, clarifications made to the above or information other than that requested should be under separate cover and shall be considered at the discretion of the City.

COMPLETED BY:

Company Name:_____

Contact Person: _____

(Signature) (Printed Name)

FAILURE TO RETURN THIS PAGE AS PART OF YOUR SUBMISSION MAY RESULT IN REJECTION OF RESPONSE

SUPPLIER DISCLOSURES
20-014

All solicitations MUST contain signed and notarized statement of Non-Collusion and non-Conflict of Interest. Any YES response for other disclosures must be detailed and attached to this sheet as part of your submittal. Reference to 'Supplier' denotes the organization submitting the response as well as the principal representing the organization.

Collusion. Collusion exists when two or more parties act together to achieve a fraudulent or unlawful act. Collusion inhibits free and open competition and is in violation of antitrust laws.
I certify that this bid response is genuine and is not a collusive or sham proposal. I further state that:

- The prepared response is made without prior understanding, agreement, or connection with any corporation, firm, or person submitting a bid or offer for the same supplies, labor, services, construction, materials or equipment to be furnished or professional or consultant services, and is in all respects fair and without collusion or fraud; and
- The price(s) submitted has/have been arrived at independently and without consultation, communication or agreement with any other supplier, supplier or potential responder to the solicitation; and
- No attempt has been made or will be made to induce any company or person to refrain from responding to this solicitation, or to induce them to submit a budget that is higher than the budget in this solicitation, or to submit any intentionally high or noncompetitive response or other form of nonresponsive submittal; and
- I understand collusive bidding is a violation of city, state and federal law and can result in fines, prison sentences, and civil damages awards. I also certify that I am authorized to sign for this Supplier.

Conflict of interest. A Conflict of Interest exists when personal interests interfere in any way with the best interest of the City. This can arise if any agent of the City or their families will receive a monetary or other type of benefit based on the award of this project or if any supplier has an unfair competitive advantage over other suppliers. A conflict is also perceived if any previous history would make it impossible for the supplier to objectively fulfill the obligations associated with this project.

I certify that there is no known conflict of interest with the City or any employee or agent of the City. There is presently no interest and no interest shall be acquired that would directly or indirectly conflict in any manner with the performance of this solicitation, should it be awarded.

_____
Company Name

_____ _____
Signature of Authorized official of company **Printed Name**

Sworn to and subscribed before me this____ day of_____ , 20_ .

Notary Public: _____

County:_____

Commission Expires: _____

OTHER SUPPLIER DISCLOSURES

Any response of 'Yes' must be explained in full (separate sheet may be used).

___ **Debarment.** Supplier certifies that neither it or its subcontractors is presently debarred, suspended, proposed for debarment, declared ineligible, or otherwise excluded from doing business with any government agency. Has the Supplier been deemed ineligible from participating in any business with any government agency in the past five (5) years?

___ **Litigation.** Within the past five (5) years, has the Supplier been the subject of or party to any civil or criminal proceedings or investigations based on wrongful death, fraud, theft, breach of contract, safety, misrepresentation or any other conduct?

___ **Financial stability.** Financial stability demonstrates that the Supplier has the resources to complete and the ability to remain in business for the duration of the subsequent contract. Has any petition of bankruptcy, orders or judgment been filed against the supplier in the past five (5) years?

___ **Liquidated Damages.** Liquidated Damages are types of compensation designed to reimburse the City for certain problems or delays associated with a project; it serves as protection to both parties in the form of 'contract completion insurance'. Has the Supplier been assessed any liquidated damages or defaulted on any project with a government agency in the past five (5) years?

___ **OSHA.** Has the Supplier been cited for any OSHA violations in the past five (5) years?

___ **COMMUNICATIONS.** Has the Supplier communicated OR discussed pricing with anyone associated with the City, other than Procurement, since the solicitation was published?

SUPPLIER ACKNOWLEDGEMENTS *(please initial)*

____ **Resources.** We agree that we have the resources needed for the satisfactory completion of the project.

____ **Exceptions.** All deviations and exceptions to this RFP must be expressly stated in writing and attached as an Exception page. The absence of any exceptions assures the City of their full agreement and compliance with all specifications, terms and conditions, requirements and obligations of this RFP.

____ **Occupational Tax License.** If a City of Griffin Occupational Tax License is needed in order to fulfill the project, we will obtain such license prior to the confirmation of contract.

____ **Insurance.** We understand the insurance requirements noted and are prepared to supply the required insurance endorsements for these requirements prior to the confirmation of contract.

____ **Terms and Conditions.** The specifications, as well as the terms and conditions of this Request for Proposal shall be incorporated as an integral part of the final contract.

The Supplier has examined, carefully studied and hereby acknowledges the Specifications and any Addenda and agrees to provide the required services in accordance with this proposal. **The Supplier agrees to all specification items listed unless specifically noted on an Exceptions page**. The Supplier further certifies that they are not currently debarred from submitting proposals by any agency of the State of Georgia or the federal government.

Specifications . . . . . Acknowledgement _____

Addendum No. _____ dated _____ Acknowledgement _____

Addendum No. _____ dated _____ Acknowledgement _____

Addendum No. _____ dated _____ Acknowledgement _____

Suppliers must acknowledge the Specifications and any issued addenda. Responses which fail to acknowledge the Supplier's receipt of any addendum will result in the rejection of the bid if the addendum contained information which substantively changes the City's requirements.

BID RESPONSE SIGNATURE

I am registered (and compliant) with the City's online registration system: Yes ___ Not yet ___
The City cannot award to a supplier that is not registered and compliant.

NAME OF COMPANY: _____

MAILING ADDRESS: _____

CITY /STATE/ZIP: _____

PHONE (including area code): _____ E-MAIL: _____

_____
AUTHORIZED SIGNATURE TITLE

_____
NAME (PRINTED) TITLE (PRINTED)

FAILURE TO RETURN THIS PAGE AS PART OF YOUR BID DOCUMENT MAY RESULT IN REJECTION OF RESPONSE. THIS FORM MUST BE COMPLETED FOR EACH BID SUBMITTAL EVEN IF YOU ARE CONSIDERED TO BE A CURRENT SUPPLIER.

REFERENCES

The City of Griffin requests a minimum of three references where work of a similar size and scope has been completed within the past 3-4 years.

REFERENCE 1:
Company Name: _____

Brief Description of Project: _____

Completion Date: _____

Contact Person: _____

Telephone: _____ E-mail: _____

REFERENCE 2:
Company Name: _____

Brief Description of Project: _____

Completion Date: _____

Contact Person: _____

Telephone: _____ E-mail: _____

REFERENCE 3:
Company Name: _____

Brief Description of Project: _____

Completion Date: _____

Contact Person: _____

Telephone: _____ E-mail: _____

COMPLETED BY:
Company Name: _____

Contact Person: _____
(Signature) (Printed Name)

STATE OF GEORGIA
CITY OF GRIFFIN

TAX COMPLIANCE FORM*

**Must be completed for all bids with an aggregate total of more than $99,000.00.*

INSTRUCTIONS TO SUPPLIERS

Please complete the following information:

- Supplier's Name: _____
- Physical Location Address: _____
  _____
- Federal Identification Number (FEI): _____
- Have you ever been registered in the State of Georgia? _____
- If so, please provide the following information, if applicable:
  - State Taxpayer Identification Number (STI): _____
  - Sales and Use Tax Number: _____
  - Withholding Tax Number: _____
- What type of service will you perform? _____
- Will you sell any tangible personal property or goods? _____
- Supplier's Affiliate's Name: _____
  - FEI: _____
  - STI: _____
  - Sales and Use Tax Number: _____
  - Withholding Tax Number: _____

  If there is more than one affiliate, please attach a separate sheet listing the information above.
- Person responsible for handling supplier's tax issues (such as the CFO, the company tax officer, etc.):
  - Name: _____
  - Telephone Number: _____
  - E-mail Address: _____

NOTICE TO SUPPLIER:

In the event the supplier is considered for contract award, the information provided on this form will be submitted to the Georgia Department of Revenue ("DOR") for a determination as to whether the supplier is a "prohibited source" (as defined by O.C.G.A. §50-5-82) or whether there are any other outstanding tax issues. MISSING, INCOMPLETE, OR ERRONEOUS DATA MAY DELAY OR PROHIBIT VERIFICATION OF YOUR ELIGIBILITY FOR CONTRACT AWARD. NO PROHIBITED SOURCE MAY RECEIVE CONTRACT AWARD; THEREFORE, YOU ARE STRONGLY ENCOURAGED TO CHECK YOUR TAX STATUS NOW AND RESOLVE ANY OUTSTANDING TAX LIABILITIES AND/OR MISSING TAX RETURNS.

SUPPLIER'S RFP/ITB CHECKLIST

___1 **Read the *entire* document,** paying close attention to critical items such as: supplies/services required; submittal dates; number of copies required for submittal; contract requirements (e.g. bonding and insurance requirements); etc. Note that all bid specific information noted in Section I or in a special Specification section, if there is one, take precedence over the general terms and conditions listed in Section II.

___2 **Note the Procurement Agent's name and e-mail address.** With the exception of written technical questions sent to the project manager, the Procurement agent is the only person you are allowed to communicate with regarding the RFP/ITB from inception until after award.

___3 **Attend the pre-proposal conference** if one is offered. These conferences provide a valuable opportunity to ask clarifying questions, obtain a better understanding of the project, or to notify the City of any ambiguities, inconsistencies, or errors in the RFP/ITB. Pre-bid conferences are not usually mandatory, but are a source of important information and attendance at them (as well as any other bid-related meetings) are considered part of the evaluation criteria.

___4 **Take advantage of the 'question / answer' period.** Submit your questions to the Procurement Agent (or Project Manager and copy the Procurement Agent) by the due date listed in the *Schedule of Events.* Even though you may get a direct response for questions you have asked, a formal addendum will be issued to address any substantive questions so all suppliers will have access to the additional pertinent information.

___5 **Follow the format required in the RFP/ITB** when answering questions and item details. Provide point-by-point responses to all sections in a clear, concise manner and in the order they were requested.

___6 **Provide complete answers/descriptions.** Read and answer **all** questions and requirements. Make sure all items have a response, even if it is a 'n/a'. Don't assume the City or evaluation committee will know what your company capabilities are or what items/services you can provide, even if you have previously contracted with the City. Proposal submissions are evaluated based solely on the information and materials provided in your response.

___7 **Use the forms provided**, e.g. cover page, cost proposal form, standard forms, registration, etc. Make sure to include all required forms (in the proper order) with your submission. You do not need to send a copy of the bid itself with your response.

___8 **Supplier registration.** Supplier registration includes both information needed by the City and affidavits/ information required by the State of Georgia. The City cannot award a bid to a supplier with incomplete registration. Registration is now done online and you can check to see if your profile is compliant (has both EV affidavit and W9) by logging in with your user-id and password. Even if you are not providing labor and do not need an E-Verify number, you will need to note the appropriate reason and sign.

___9 **Check the City website for RFP/ITB addenda.** All addenda issued for the RFP/ITB are posted on the City's website under the associated bid posting. Do not assume that if you received an individual notification of the bid, you will receive all addenda. Notifications are a courtesy effort and the City cannot guarantee that an email notification will reach all of the intended recipients. Before submitting your response, check the website at http://www.cityofgriffin.com (select 'Resources', then 'Bid Opportunities') to confirm if any addenda were issued for the RFP/ITB. If so, you must acknowledge each addendum on the Response document.

__10 **Review and read the RFP/ITB document again** to make sure that you have addressed all requirements. Once the bid deadline has been met, you will be unable to make changes to your response. Your original response and the requested copies must be identical and complete. The copies are provided to the evaluation committee members and will be used to rank your response.

__11 **'Package' your response in the recommended order** of section 1.6. When response submittals are packaged in the same manner, evaluators are able to review them in a more timely, thorough and equitable manner.

__12 **Submit your response on time.** Note all the dates and times listed in the *Schedule of Events* and within the document, and be sure to submit all required items on time. Late submissions will not be accepted.

This checklist is provided for assistance only and does not need to be submitted with the Supplier's Response.

SUPPLIER REGISTRATION

Supplier Registration with the City Of Griffin consists of the following:

The City of Griffin now has online self-service registration, via Vendor Registry. In order to be registered as a City of Griffin supplier, you must access the registration via the City's site. This will give you the opportunity to keep your information accurate and current. It also permits unlimited NIGP commodity codes, allowing for notifications based on your specific business criteria. In addition to the visibility to the City, this service will allow for other agencies in our area to have visibility of your company and it will allow you to have visibility of opportunities from other agencies in our area. There is no charge for this basic service, but you do have the option to automatically expand your visibility to other areas for a small fee to Vendor Registry at any time.

TO REGISTER:

- ✓ Please visit our website at www.cityofgriffin.com
- ✓ Select "Resources"
- ✓ Select "Register my Business with the City"
- ✓ Complete your registration by following the instructions provided
    - Two documents (forms included below) will be required to be **uploaded online** before your registration is complete. They are:

- **Supplier Affidavit** – This document is also referred to as the E-Verify affidavit and has been updated to reflect new laws that have recently gone into effect. An E-Verify (EV) number is REQUIRED by the State of Georgia (OCGA § 13-10-91) if you provide labor or services to the City that is valued in excess of $2,499.99. In addition to the EV number and signature, the affidavit must be notarized. If you are a sole proprietor or your company provides only products, simply initial the statement that applies to your situation and sign. **There is no need to notarize the affidavit unless you provide your EV number**.
- **W-9** – This document supplies the Employer Identification Number (EIN) or the Social Security (SS) number of the supplier.

Note: *If you have problems getting registered, Vendor Registry is available to answer questions and help get you registered; they can be reached toll-free at (865) 777-4337. The City is also available to help.*

If you are registered on Vendor Registry with another agency other than City of Griffin, you can 'piggyback' off of your existing profile to create a profile for Griffin. Contact Vendor Registry or our Procurement office for help in creating this new record.

STATE OF GEORGIA
CITY OF GRIFFIN

SUPPLIER (*E-VERIFY*) AFFIDAVIT AND AGREEMENT

Please initial the appropriate statement for your current and future business relations with the City of Griffin, sign and have notarized if applicable (one must be initialed):

A) ____ My company provides products only for the City (no physical labor or services).

B) ____ I am a sole proprietor and have no employees.

C) ____ My company is providing labor or services on a one-time basis that amounts to under $2,500.00.

D) ____ My company provides labor or services to the City and I have supplied the EV number below (notarization below is required).

_____

BY: Authorized Officer or Agent *Printed Name* *Date*

_____

Company / Contractor Name *Title of Authorized Officer or Agent of Contractor*

While the City requests a signed affidavit from every supplier, only those that provide labor or services that could amount to $2,500 or more to the City (item D above) MUST supply the actual E-Verify number issued by Homeland Security and have this affidavit notarized.

****

NOTARIZATION REQUIRED FOR E-VERIFY NUMBER SUBMISSIONS:

COMES NOW before me, the undersigned officer duly authorized to administer oaths, the undersigned contractor, who, after being duly sworn, states as follows:

By executing this affidavit, the undersigned contractor verifies its compliance with O.C.G.A. § 13-10-91 and Georgia Department of Labor Rule 300-10-1-.02, stating affirmatively that the individual, firm, or corporation which is contracting with the City has registered with and is participating in a federal work authorization program in accordance with the applicability provisions and deadlines established in O.C.G.A. § 13-10-91 and Georgia Department of Labor Rule 300-10-1-.02. Furthermore, the undersigned contractor will continue to use the federal work authorization program throughout the contract period.

The undersigned contractor further agrees that, should it employ or contract with any subcontractor(s) in connection with the physical performance of services pursuant to the contract with the City of Griffin, Georgia, of which this affidavit is a part, the undersigned contractor will secure from such subcontractor(s) similar verification of compliance with O.C.G.A. § 13-10-91 and Georgia Department of Labor Rule 300-10-1-.02 through the subcontractor's execution of the subcontractor affidavit required by Georgia Department of Labor Rule 300-10-1-.08 or a substantially similar subcontractor affidavit. The undersigned contractor further agrees to maintain records of such compliance and provide a copy of each such verification to the City at the time the subcontractor(s) is retained to perform such service.

_____

EEV / (*E-Verify # issued by Homeland Security IF checked above*)

Sworn to and subscribed before me

This _____ day of _____, 20 ____

Notary Public _____

My commission expires: _____

* Any of the electronic verification of work authorization programs operated by the United States Department of Homeland Security or any equivalent federal work authorization program operated by the United States Department of Homeland Security to verify information of newly hired employees, pursuant to the Immigration Reform and Control Act of 1986 (!RCA), P.L. 99-603. As of the effective date of O.C.G.A. § 13-10-91, the applicable federal work authorization program is the "EEV *I* Basic Pilot Program" operated by the U.S. Citizenship and Immigration Services Bureau of the U.S. Department of Homeland Security, in conjunction with the Social Security Administration (SSA).

ATTACHMENT 1: GDOT APPROVED CONECPTY REPORT

Georgia Department of Transportation

Interoffice Memo
Office of Design Policy & Support

DATE: **12/9/2019**

FILE: P.I.# 0015101
Spalding County / GDOT District 3 - Thomaston
Solomon Street @ Searcy Avenue & Spalding Street - Scoping Study

FROM: for Brent Story, State Design Policy Engineer

TO: SEE DISTRIBUTION

SUBJECT: **APPROVED CONCEPT REPORT**

Attached is the approved Concept Report for the above subject project.

Attachment

Distribution:
Hiral Patel, Director of Engineering
Joe Carpenter, Director of P3
Albert Shelby, Director of Program Delivery
Carol Comer, Director, Division of Intermodal
Darryl VanMeter, Assistant Director of P3/State Innovative Delivery Administrator
Kim Nesbitt, Program Delivery Administrator
Bobby Hilliard, Program Control Administrator
Paul Tanner, State Transportation Planning Administrator
Eric Duff, State Environmental Administrator
Andrew Heath, State Traffic Engineer
Angela Robinson, Financial Management Administrator
Erik Rohde, State Project Review Engineer
Monica Flournoy, State Materials Engineer
Patrick Allen, State Utilities Engineer
Eric Conklin, State Transportation Data Administrator
Attn: Systems & Classification Branch
Benny Walden, Statewide Location Bureau Chief
Ed David Adams, State Safety Program Manager
Michael Presley, District Engineer
Adam Smith, District Preconstruction Engineer
Scott Parker, District Utilities Manager
Cherral Dempsey, Project Manager
BOARD MEMBER - 3rd Congressional District

GDOT
Georgia Department of Transportation

Project Concept Report

Project Type:	Intersection Improvement	P.I. Number:	0015101
GDOT District:	3	County:	Spalding
Federal Route Number:	N/A	State Route Number:	N/A
Project Number:	N/A		

Intersection and Realignment Improvement - CS 103705/ CS 78305 East Solomon Street at CS 103205/Searcy Ave and CS 103705/Spalding Street, at Norfolk Southern railroad crossing, US DOT ID #718202K

Submitted for approval: *8/23/2019 Report Submittal*

Moreland Altobelli Associates, LLC, An Atlas Company	03/11/19 Date
City of Griffin	03/27/19 Date
Kimberly W. Nesbitt State Program Delivery Administrator	5/19/19 Date
C. Dempsey Clinton B. Ford C.L.B. GDOT Project Manager	5/17/19 Date

Recommendation for approval:

Eric Duff*/EKP State Environmental Administrator	5/29/2019 Date
For Christopher Raymond*/EKP State Traffic Engineer	6/6/2019 Date
For Joshua Taylor*/EKP Project Review Engineer	5/31/2019 Date
For Tonia Hinton*/EKP State Utilities Engineer	9/4/2019 Date
Michael Presley*/EKP District Engineer	6/10/2019 Date

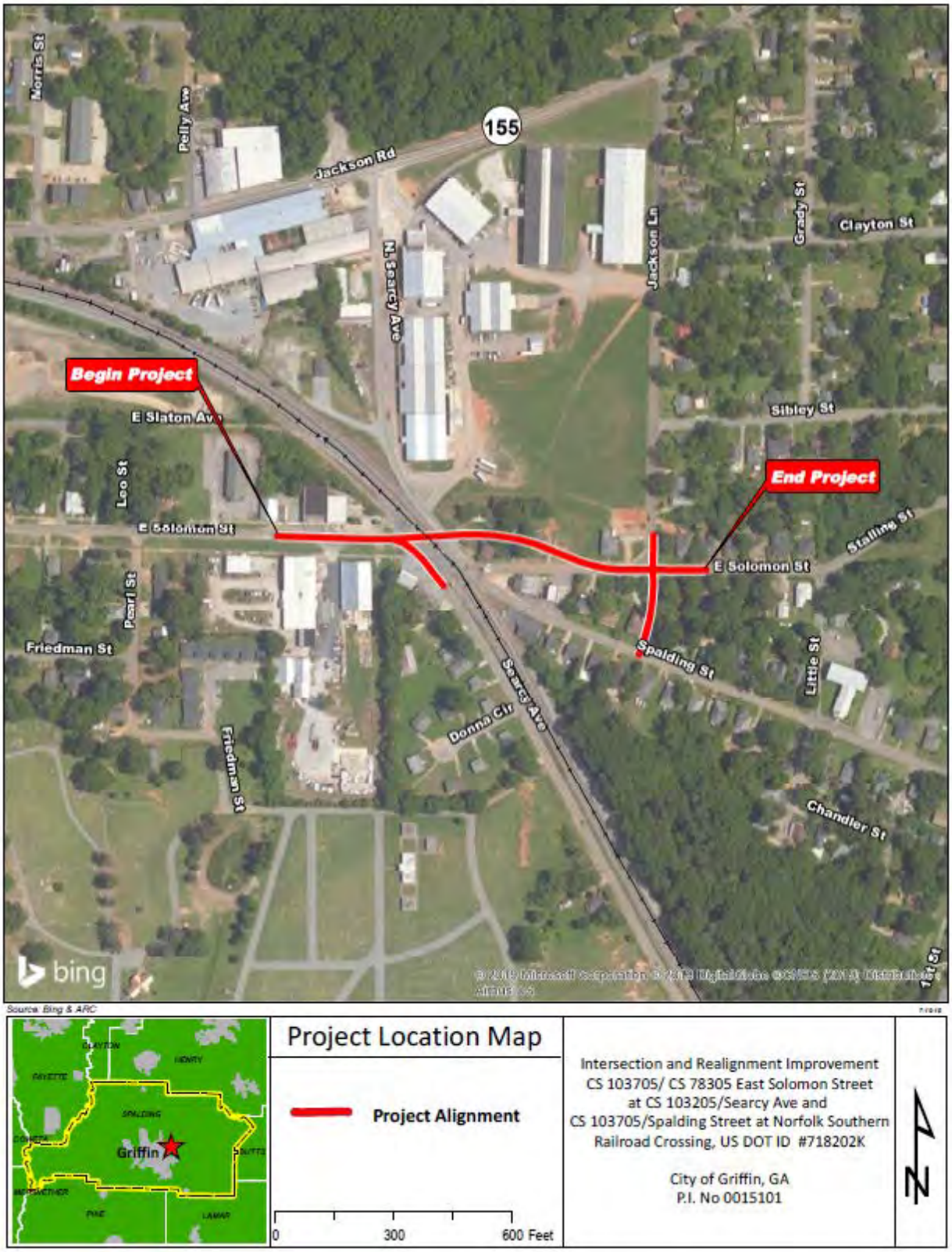
☒ MPO Area: This project is consistent with the MPO adopted Regional Transportation Plan (RTP)/Long Range Transportation Plan (LRTP).

☐ Rural Area: This project is consistent with the goals outlined in the Statewide Transportation Plan (SWTP) and/or is included in the State Transportation Improvement Program (STIP).

Paul Tanner*/EKP State Transportation Planning Administrator	6/11/2019 Date

**- Recommendation on File*

PROJECT LOCATION MAP



PLANNING AND BACKGROUND

Project Justification Statement: The roadway/railroad crossing of E. Solomon Street at Searcy Avenue/Spalding Street has unique traffic operational challenges. This crossing has stop sign control at a five-way intersection bisected by a three-track crossing. This location needs improvement for traffic flow and to reduce the potential for train-vehicle crashes.

Railroad: The horizontal alignments of the three existing Norfolk Southern (NS) tracks are at varying elevations and superelevations. Trains have struck vehicles that were stopped on the crossing in 2013 and 2014 although the crossing is currently equipped with flashing light signals. Train traffic on the line is expected to increase at a rate in excess of the statewide average for the foreseeable future. Improvement of this crossing would reduce the potential for train-vehicle crashes.

Roadway: The existing combined roadway/railroad intersection-crossing geometry forms a wide crossing of four roadway approaches and five roadway departures that are all at acute angles at the railroad crossing. There are very directional traffic movements through the intersection during morning and evening peak periods. The width of the crossing and skew of the roadway approaches make it difficult to provide railroad gates, which would provide an additional measure of safety to prevent train-vehicle crashes. Also, a wide intersection with multiple approaches and departures that are not aligned with each other can cause confusion for the driver when determining right-of-way. Realigning and separating the multiple street approaches at the railroad crossing would improve the delay and efficiency of the intersection and reduce the potential for train-vehicle crashes and vehicle-vehicle crashes over the railroad crossing.

Existing conditions: E. Solomon Street, Spalding Street and S. Searcy Avenue are all narrow (less than 24 feet) two-lane, two-way roadways and cross the railroad tracks at acute angles. North Searcy Avenue is a one-way street leading north away from the railroad crossing. All of the streets are “Stop Sign” controlled. There are no provisions for pedestrians along any of these streets.

E. Solomon Street has large electric transmission poles that lead to the substation east of the intersection. Also, distribution electric/communications line poles are located on Norfolk Southern (NS) property requiring project-utility company-NS coordination and concurrence. There are fiber optic, water and gas lines that were observed on the NS right-of-way.

Other projects in the area: None

MPO: Atlanta TMA

TIP #: SP - 173 - Scoping Phase
SP - 100 - PE Phase

Congressional District(s): 3

Federal Oversight: ☐ PoDI ☒ Exempt ☐ State Funded ☐ Other

Projected Traffic: AADT

	Current Year (2017)	Open Year (2022)	Design Year (2042)	24-HR T%
East Solomon Street	5,050	5,200	5,700	6%-7%
Searcy Avenue	2,400	2,500	2,700	5%
Spalding Street	2,550	2,600	2,875	2.5%
North Searcy Avenue	750	750	850	15.5%

Traffic Projections Performed by: Moreland Altobelli Associates, LLC, An Atlas Company
Date approved by the GDOT Office of Planning: 7/5/17

AASHTO Functional Classification (Mainline): *Minor Arterial* – E. Solomon Street & Spalding Street
Minor Collector – Searcy Avenue & North Searcy Avenue

AASHTO Context Classification (Mainline): *Urban*

AASHTO Project Type (Mainline): *Reconstruction*

Complete Streets - Bicycle, Pedestrian, and/or Transit Standard Warrants:
Warrants met: ☐None ☐ Bicycle ☒Pedestrian ☐Transit
Pedestrian Warrant #1 is met.

Is this a 3R (Resurfacing, Restoration, & Rehabilitation) Project? ☒ No ☐ Yes

Pavement Evaluation and Recommendations
Initial Pavement Evaluation Summary Report Required? ☐ No ☒ Yes
Feasible Pavement Alternatives: ☒ HMA ☐ PCC ☐ HMA & PCC

DESIGN AND STRUCTURAL

Description of the proposed project: The proposed project would reconfigure the five-legged intersection at the Norfolk Southern railroad by extending E. Solomon Street from the west side of Norfolk Southern railroad to a realigned E. Solomon Street on the east side of the railroad. Spalding Street would be separated from E. Solomon Street at its current location and a cul-de-sac would be constructed on the end of Spalding Street. A new two-lane roadway would be constructed that connects Spalding Street to E. Solomon Street to form a four-legged intersection at Jackson Lane. A left-turn lane would be provided on E. Solomon Street to turn left onto Searcy Avenue. The one-way northbound North Searcy Avenue would no longer be connected to E. Solomon Street and would end at a commercial driveway north of the relocated E. Solomon Street. The total project length (along E. Solomon St.) is approximately 0.21 miles.

Major Structures: None

Is the project located on a NHS roadway? ☒ No ☐ Yes

Is the project located on a Special Roadway or Network? ☒ No ☐ Yes *Network Type*

Mainline Design Features: Jackson Lane Extension, E. Solomon Street, Searcy Avenue

Feature	Existing	*Policy	Proposed
Typical Section:			
- Number of Lanes	2		2
- **Lane Width(s)**	11’-12’	**10’-12’**	12’
- **Median Width & Type**	N/A	**N/A**	N/A
- **Border Area Width**	Varies	**12’-16’**	12’ With Curb & Gutter
- **Outside Shoulder Slope**	6%	**2%**	2%
- **Inside Shoulder Width**	N/A	**N/A**	N/A
- **Sidewalks**	None	**5’**	5’
- Auxiliary Lanes	No	**No**	No
- **Bike Accommodation**	No	**No**	No
Posted Speed	35 mph		35 mph
Design Speed	N/A	**--**	35 mph
Minimum Horizontal Curve Radius	320’	**371’**	371’
Maximum Superelevation Rate	4%	**4%**	4%

Maximum Grade	6%	**11%**	6%
Access Control	By Permit	**By Permit**	By Permit
Design Vehicle	Unknown		WB-50
Check Vehicle			
Pavement Type	Asphalt	**Asphalt**	Asphalt

**According to current GDOT design policy if applicable*

Design Exceptions/Design Variances to FHWA or GDOT Controlling Criteria anticipated:

FHWA or GDOT Controlling Criteria	No	Undetermined	Yes	DE or DV	Approval Date (if applicable)
1. Design Speed	☒	☐	☐		
2. Design Loading Structural Capacity	☒	☐	☐		
3. Stopping Sight Distance	☒	☐	☐		
4. Horizontal Curve Radius	☒	☐	☐		
5. Maximum Grade	☒	☐	☐		
6. Vertical Clearance	☒	☐	☐		
7. Superelevation Rate	☒	☐	☐		
8. Lane Width	☒	☐	☐		
9. Cross Slope	☒	☐	☐		
10. Shoulder Width	☒	☐	☐		

Design Variances to GDOT Standard Criteria anticipated:

GDOT Standard Criteria	Reviewing Office	No	Undetermined	Yes	Approval Date (if applicable)
1. Access Control	DP&S	☒	☐	☐	
2. Shoulder Width	DP&S	☒	☐	☐	
3. Intersection Sight Distance	DP&S	☒	☐	☐	
4. Intersection Skew Angle	DP&S	☒	☐	☐	
5. Tangent Lengths on Reverse Curves	DP&S	☒	☐	☐	
6. Lateral Offset to Obstruction	DP&S	☒	☐	☐	
7. Rumble Strips	DP&S	☒	☐	☐	
8. Safety Edge	DP&S	☒	☐	☐	
9. Median Usage	DP&S	☒	☐	☐	
10. Roundabout Illumination Levels	DP&S	☒	☐	☐	
11. Complete Streets Warrants	DP&S	☒	☐	☐	
12. ADA Requirements in PROWAG	DP&S	☒	☐	☐	
13. GDOT Construction Standards	DP&S	☒	☐	☐	
14. GDOT Drainage Manual	DP&S	☒	☐	☐	

VE Study anticipated: ☒ No ☐ Yes ☐ Completed – Date: _____

Lighting Required: ☒ No ☐ Yes

Off-site Detours Anticipated: ☒ No ☐ Undetermined ☐ Yes
If yes: Roadway type to be closed: ☐ Local Road ☐ State Route
Detour Route selected: ☐ Local Road ☐ State Route
District Concurrence w/Detour Route: ☐ No/Pending ☐ Received *Select a date*

Transportation Management Plan [TMP] Required: ☐ No ☒ Yes
If Yes: Project classified as: ☒ Non-Significant ☐ Significant
TMP Components Anticipated: ☒ TTC ☐ TO ☐ PI

INTERSECTIONS AND INTERCHANGES

Interchanges/Major Intersections: E. Solomon Street at Searcy Avenue, E. Solomon Street at Spalding Street and E. Solomon Street at North Searcy Avenue.

Intersection Control Evaluation (ICE) Required: ☐ No ☒ Yes
Please see Attachment 6 for the completed ICE analyses: Stage 1 –Screening Decision Record and Stage 2 – Alternative Selection Decision Report at three intersections.

Roundabout Concept Validation Required: ☒ No ☐ Yes ☐ Completed – Date: Date

UTILITY AND PROPERTY

Railroad Involvement: Railroad coordination will be required with Norfolk Southern Railroad. Jacob Watson is the contact for Norfolk Southern. His email is Jacob.watson@nscorp.com.

Utility Involvements: Georgia Power Transmission, City of Griffin Water Authority, AT&T Fiber optic cable, Spalding Gas Company and Norfolk Southern Railroad.

SUE Required: ☒ No ☐ Yes ☐ Undetermined

Public Interest Determination Policy and Procedure recommended: ☒No ☐Yes

Right-of-Way (ROW): Existing width: 50-70ft. Proposed width: 50-120ft. (Along new alignment)

Required Right-of-Way anticipated: ☐None ☒Yes ☐Undetermined

Easements anticipated: ☐None ☒Temporary ☒Permanent * ☒Utility ☐Other

***** *Permanent easements will include the right to place utilities.*

Anticipated total number of impacted parcels:		14
	Businesses:	1
Displacements anticipated:	Residences:	5
	Other:	0
	Total Displacements:	6

Location and Design approval: ☐ Not Required ☒ Required

Impacts to USACE property anticipated: ☒ No ☐ Yes ☐ Undetermined

CONTEXT SENSITIVE SOLUTIONS

Issues of Concern: Along the proposed project there is a lack of connectivity of sidewalks.

Context Sensitive Solutions Proposed: The proposed project plans to address the concerns by adding sidewalk connections throughout the project (See Attachment 1).

ENVIRONMENTAL & PERMITS

Anticipated Environmental Document: NEPA ~ CE

Level of Environmental Analysis:

☒ The environmental considerations noted below are based on preliminary desktop or screening level environmental analysis and are subject to revision after the completion of resource identification, delineation, and agency concurrence.

☐ The environmental considerations noted below are based on the completion of resource identification, delineation, and agency concurrence.

Water Quality Requirements:

MS4 Permit Compliance – Is the project located in a MS4 area? ☐ No ☒ Yes

This project does not fall under the GDOT MS4 permit. This project does not impact any state routes. MS4 compliance, per City of Griffin requirements, will be conducted during preliminary design.

Is Non-MS4 water quality mitigation anticipated? ☒ No ☐ Yes

Environmental Permits/Variances/Commitments/Coordination anticipated:

Permit/Variance/Commitment/ Coordination Anticipated	No	Yes	Remarks
1. U.S. Coast Guard Permit	☒	☐	
2. Forest Service/NPS	☒	☐	
3. CWA Section 404 Permit	☒	☐	
4. Tennessee Valley Authority Permit	☒	☐	
5. USACE Real Estate Outgrant	☒	☐	
6. Buffer Variance	☒	☐	
7. Coastal Zone Management Coordination	☒	☐	
8. NPDES	☐	☒	
9. FEMA	☒	☐	
10. Cemetery Permit	☒	☐	
11. Other Permits	☒	☐	
12. Other Commitments	☒	☐	
13. Other Coordination	☐	☒	Norfolk Southern Railroad

Is a PAR required? ☒ No ☐ Yes ☐ Completed – Date:

Environmental Comments and Information:

NEPA/GEPA: A Categorical Exclusion will be prepared.

Ecology: An Ecology Resource Survey (ERSR) was approved by the Georgia Department of Transportation (GDOT) Office of Environmental Services (OES) on April 4, 2018 and transmitted to the Federal Highway Administration. No ecological resources were identified in the project area. No Section 7 consultation, Section 404 permit or stream buffer variance are anticipated.

History: A review of the National Register of Historic Places, the GNARGHIS history data base, a 1962 historic aerial, Spalding County tax assessor's documents, and a modern aerial was completed. The proposed project study area showed no properties as being listed on the National Register or have been previously inventoried. The field survey, based on the desktop research, revealed numerous historic resources associated with historic mills, including the railroad, within the area of potential effect (APE) of the project. These resources, including the historic public institutions such as schools, churches, and cemeteries, along with associated housing, which constitutes a mill village, were incorporated as the East Griffin Mills Historic District and included in the History Resource Survey Report approved by GDOT Office of Environmental Services (OES) on July 23, 2018. The East Griffin Mill District and the Macon and Western railroad are both eligible for inclusion on the National Register of Historic Places. These findings have been concurred upon by the State Historic Preservation Officer (SHPO) on September 10, 2018.

Archeology: A review of the Georgia archaeological site files was conducted along with a field survey with the approved shovel testing locations. Based on the field work conducted, there were no sites found. An Archaeological Short Report was approved by OES and transmitted to the State Historic Preservation Officer (SHPO) on December 31, 2018.

Air Quality:

Is the project located in an Ozone Non-attainment area?	☒ No	☐ Yes
Is a Carbon Monoxide hotspot analysis required?	☒ No	☐ Yes

Noise Effects: A type III noise report will be prepared.

Public Involvement: A public information open house (PIOH) was held on December 19, 2018. See attached summary of results.

Major stakeholders: City of Griffin, Norfolk Southern railroad, Spalding County, local businesses, nearby residences and general public.

CONSTRUCTION

Issues potentially affecting constructability/construction schedule: None

Early Completion Incentives recommended for consideration: ☒ No ☐ Yes

COORDINATION, ACTIVITIES, RESPONSIBILITIES, AND COSTS

Federal Aviation Administration (FAA) coordination anticipated: ☒No ☐ Yes

Initial Concept Team Meeting: Meeting held on September 20, 2017 (See Attachment 8).

Concept Team Meeting: Meeting held on September 10, 2018 (See Attachment 8).

Other coordination to date: None

Project Activity	Party Responsible for Performing Task(s)
Concept Development	City of Griffin
Design	City of Griffin
Right-of-Way Acquisition	City of Griffin
Utility Coordination (Preconstruction)	City of Griffin

Utility Relocation (Construction)	Utility Owners
Letting to Contract	City of Griffin
Construction Supervision	City of Griffin
Providing Material Pits	Contractor
Providing Detours	Contractor
Environmental Studies, Documents, & Permits	City of Griffin
Environmental Mitigation	City of Griffin
Construction Inspection & Materials Testing	City of Griffin

Project Cost Estimate Summary and Funding Responsibilities:

	PE Activities		ROW	Reimbursable Utilities	CST*	Total Cost
	PE Funding	Section 404 Mitigation				
Programmed Cost:	$250,000		N/A	N/A	N/A	$250,000
Funded By:	City of Griffin	N/A	TBD	TBD	TBD	
Estimated Amount:	$225,000	N/A	$1,015,000	$2,947,133	$1,555,308	$5,742,440
Date of Estimate:	05/08/18	N/A	04/17/18	02/14/2019	08/07/2019	
Cost Difference:	N/A		N/A	N/A	N/A	N/A

*CST Cost includes: Construction, Engineering and Inspection, Contingencies and Liquid AC Cost Adjustment.

The scoping phase is the only programmed funds at the time of the report. Additional state or federal funds will be pursued.

ALTERNATIVES DISCUSSION

Alternative selection: See Alternatives map on next page for schematic drawing of the alternatives.

Preferred Alternative (Alternative 1): Extension of East Solomon Street to relocated East Solomon Street and connector roadway between Spalding St and East Solomon Street.			
Estimated Property Impacts:	**14 Parcels 6 Displacement**	**Estimated Total Cost:**	**$5.7 million**
Estimated ROW Cost:	**$1,015,000**	**Estimated CST Time:**	**18 months**
Rationale: This is the preferred alternative because it removes the five-legged intersection away from the railroad. Only one intersection (Searcy Avenue) remains near the railroad. The traffic of Spalding Street and East Solomon Street now intersect approximately 560 feet from the railroad crossing. See drawing of concept layout – Attachment #1.			

No-Build Alternative: No action would be taken to improve the intersection and railroad crossing.			
Estimated Property Impacts:	**N/A**	**Estimated Total Cost:**	**N/A**
Estimated ROW Cost:	**N/A**	**Estimated CST Time:**	**N/A**
Rationale: The intersection would continue to cause traffic delays that result in traffic congestion during the peak hours. The five legged intersection would remain difficult to discern the right-of-way and would have the potential to cause traffic crashes.			

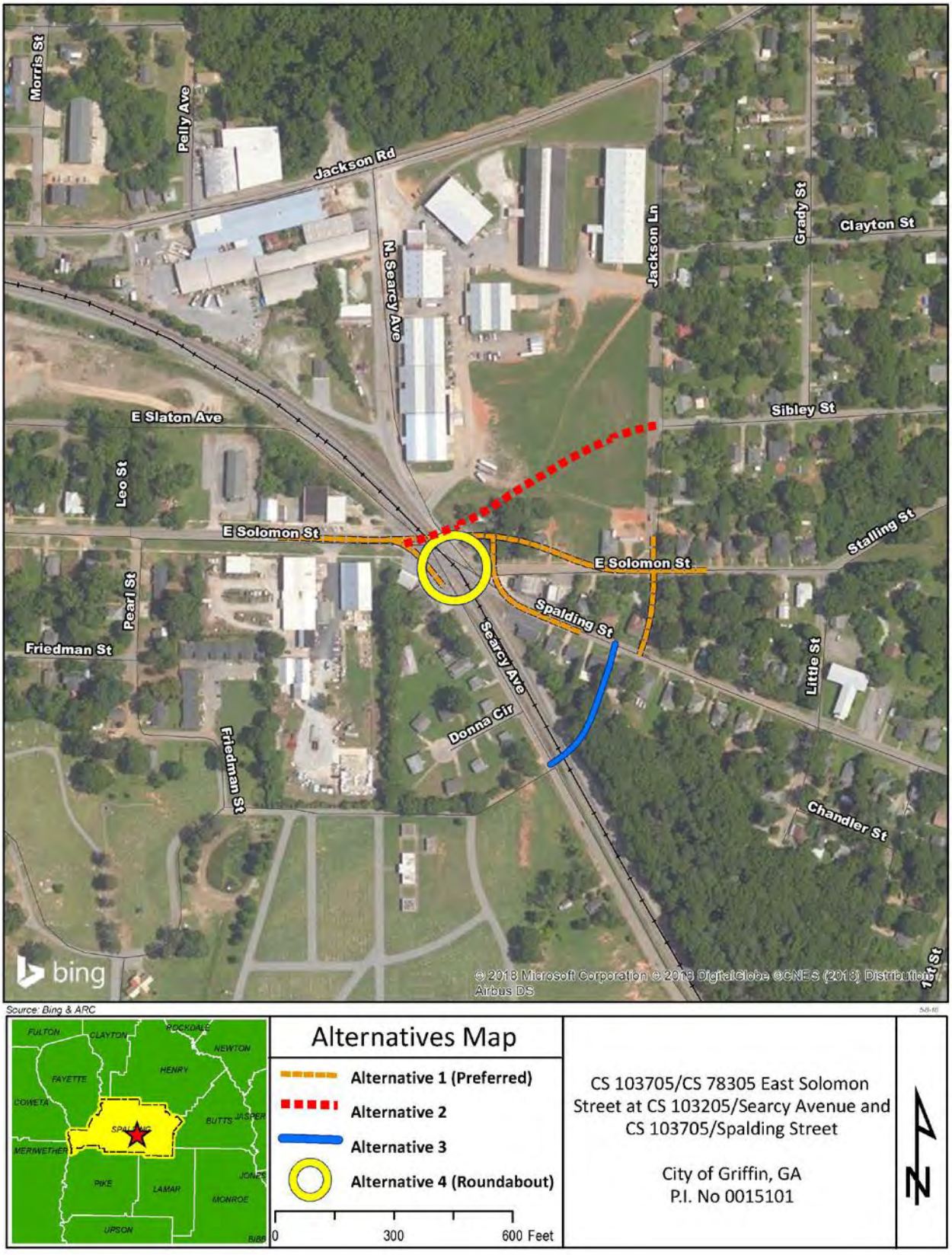
Alternative 2: Extension of East Solomon Street to Sibley Street at Jackson Lane with a new 90 degree railroad crossing. See drawing of Alternative 2 in Attachment #10.			
Estimated Property Impacts:	**2 Parcels**	**Estimated Total Cost:**	**$2.7 million**
Estimated ROW Cost:	**$100,000**	**Estimated CST Time:**	**18 months**
Rationale: This alternative does not direct the traffic to and from the neighborhoods that use this route. Also, intersections on both sides of the railroad remain and would continue to cause congestion at the railroad crossing.			

Alternative 3: New railroad crossing of a new connecting roadway between S. Searcy Avenue and Spalding Street southwest of the existing railroad crossing. The existing railroad crossing at E. Solomon Street would be closed. See drawing of Alternative 3 in Attachment #10.			
Estimated Property Impacts:	**5 Parcels 1 Displacement**	**Estimated Total Cost:**	**$3.1 million**
Estimated ROW Cost:	**$400,000**	**Estimated CST Time:**	**18 months**
Rationale: This relocation of the railroad crossing does not facilitate the traffic patterns that exist today and would not provide a reduction in delay. The alternative would still have intersections on each side of the railroad which could cause traffic delay on the roadways parallel to the railroad.			

Alternative 4: Construction of a roundabout over the railroad crossing. See drawing of Alternative 4 in Attachment #10.			
Estimated Property Impacts:	**4 Parcels 2 Displacement**	**Estimated Total Cost:**	**$2.9 million**
Estimated ROW Cost:	**$500,000**	**Estimated CST Time:**	**18 months**
Rationale: This alternative would not be desirable because it would close down two sections of the roundabout when a train is coming and could cause confusion and delay for motorists on all legs of the roundabout.			

Comments: None

Alternatives Map



LIST OF ATTACHMENTS/SUPPORTING DATA

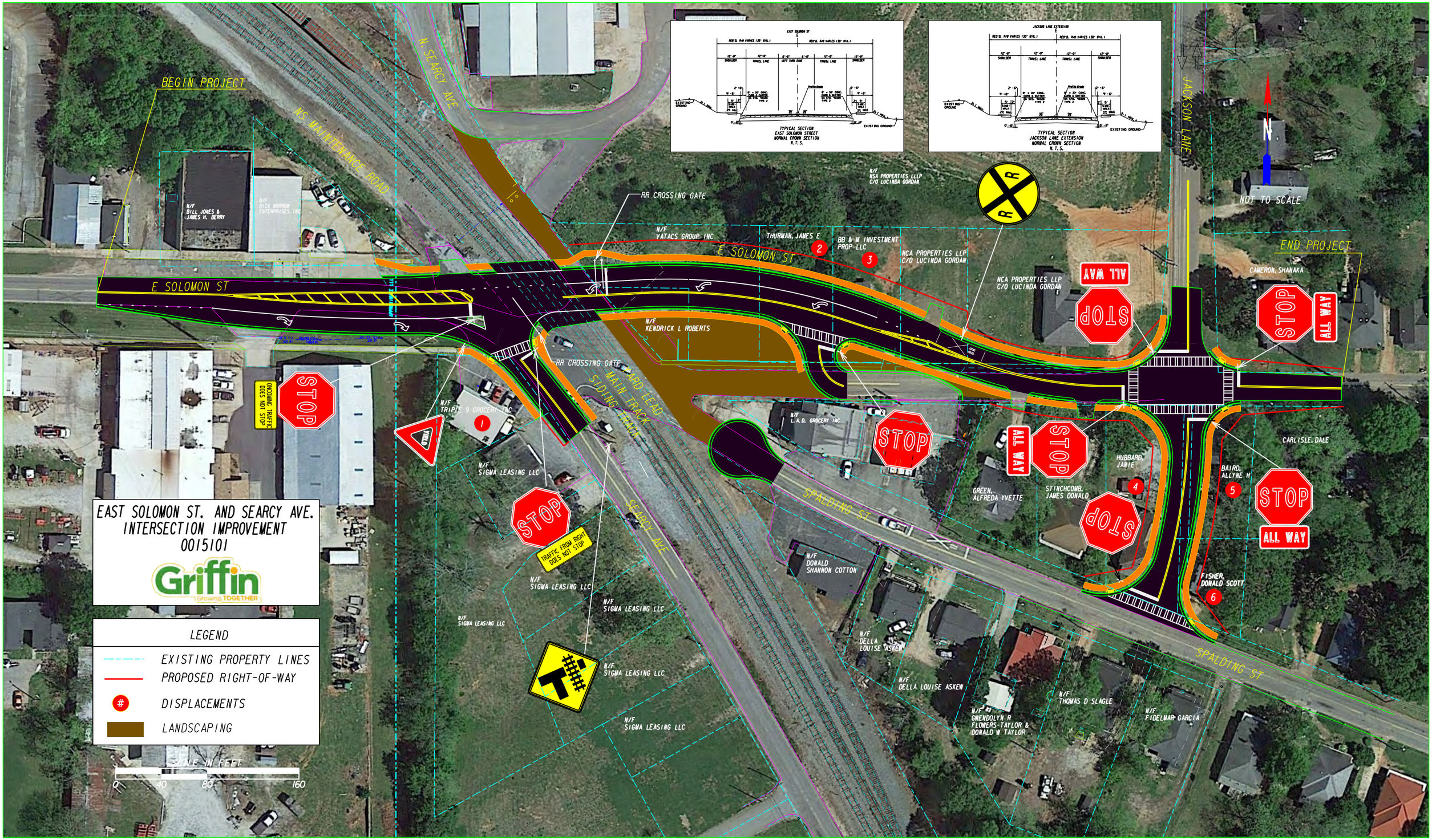
1. Concept Layout
2. Typical sections
3. Detailed Cost Estimates:
    a. Construction including Engineering and Inspection and Contingencies
    b. Completed Liquid AC Cost Adjustment forms
    c. Right-of-Way
    d. Utilities, to include the Concept Utility Report, and Railroad
4. Crash summaries
5. Design Traffic diagrams
6. ICE Report(s)
    a. Stage 1 Screening Decision Record
    b. Concurrence Memo
    c. Stage 2 Alternative Selection Decision Record
    d. Approved Waiver Request
7. Pavement studies
8. Minutes of Concept meetings
9. PIOH Summary of Results
10. Alternative Drawings 2-4

APPROVALS

Concur: Hiral Patel — Director of Engineering — 12-4-19 — Date

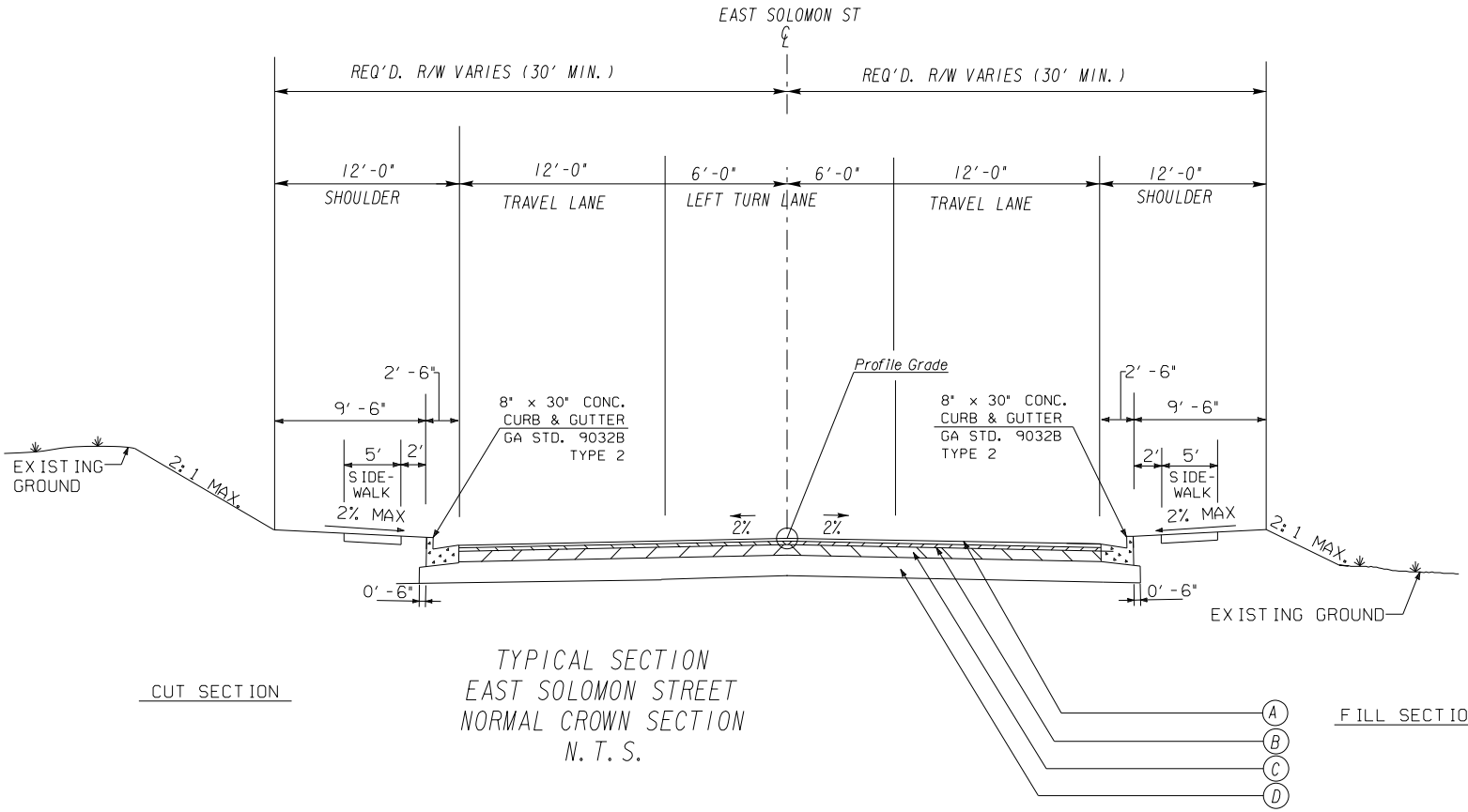
Approve: Margaret B. Pitts — Chief Engineer — 12·9·19 — Date

Attachment 1
Concept Layout – Alternative 1


BEGIN PROJECT
N.S MAINTENANCE ROAD
N. SEARCY AVE
E SOLOMON ST
JACKSON LANE
N
NOT TO SCALE
END PROJECT
CAMERON, SHANAKA
RR CROSSING GATE
MAIN TRACK
SIDING TRACK
LEAD
SEARCY AVE
SPALDING ST
N/F BILL JONES & JAMES H. BERRY
N/F DICK MORROW ENTERPRISES INC
N/F VATACS GROUP INC
THURMAN, JAMES E
BB & W INVESTMENT PROP LLC
N/F NSA PROPERTIES LLLP C/O LUCINDA GORDAN
NCA PROPERTIES LLP C/O LUCINDA GORDAN
N/F KENDRICK L ROBERTS
N/F TRIPLE 9 GROCERY INC.
N/F L.A.D. GROCERY INC.
N/F SIGMA LEASING LLC
N/F DONALD SHANNON COTTON
N/F DELLA LOUISE ASKEW
N/F GWENDOLYN R FLOWERS-TAYLOR & DONALD W TAYLOR
N/F THOMAS D SLAGLE
N/F FIDELMAR GARCIA
GREEN, ALFREDA YVETTE
STINCHCOMB, JAMES DONALD
HUBBARD, JANIE
BAIRD, ALLYNE H
CARLISLE, DALE
FISHER, DONALD SCOTT
STOP
ALL WAY
ONCOMING TRAFFIC DOES NOT STOP
TRAFFIC FROM RIGHT DOES NOT STOP
1
2
3
4
5
6
TYPICAL SECTION
EAST SOLOMON STREET
NORMAL CROWN SECTION
N.T.S.
TYPICAL SECTION
JACKSON LANE EXTENSION
NORMAL CROWN SECTION
N.T.S.
EAST SOLOMON ST
JACKSON LANE EXTENSION
EXISTING GROUND
12'-0" SHOULDER
12'-0" TRAVEL LANE
12'-0" LEFT TURN LANE
EAST SOLOMON ST
JACKSON LANE EXTENSION
EAST SOLOMON ST
JACKSON LANE EXTENSION
EAST SOLOMON ST
JACKSON LANE EXTENSION

Attachment 2
Typical Section

3/6/2019 9:26:38 AM	jverslan	TYPICAL-SECTIONS_V8.dgn	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
framirez	gplotborder-V8i-PO.tbl		GA			



TYPICAL SECTION
EAST SOLOMON STREET
NORMAL CROWN SECTION
N.T.S.

PROPOSED PAVEMENT

Ⓐ RECYCLED ASPH CONC. 9.5 mm SUPERPAVE, GP 2 ONLY, INCL BITUM MATL & H LIME (135 LBS/SY)
Ⓑ RECYCLED ASPH CONC. 19 mm SUPERPAVE, GP 1 OR 2 INCL BITUM MATL & H LIME (220 lbs/SY)
Ⓒ RECYCLED ASPH CONC. 25 mm SUPERPAVE, GP 1 OR 2 INCL BITUM MATL & H LIME (440 lbs/SY)
Ⓓ GRADED AGGREGATE BASE (10")

REVISION DATES		

STATE OF GEORGIA
DEPARTMENT OF TRANSPORTATION
OFFICE:

TYPICAL SECTION
EAST SOLOMON RD

DRAWING No. 5-001

1/5/2009 GPLM

3/6/2019	9:27:12 AM	Jversion	TYPICAL-SECTIONS_V8.dgn	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
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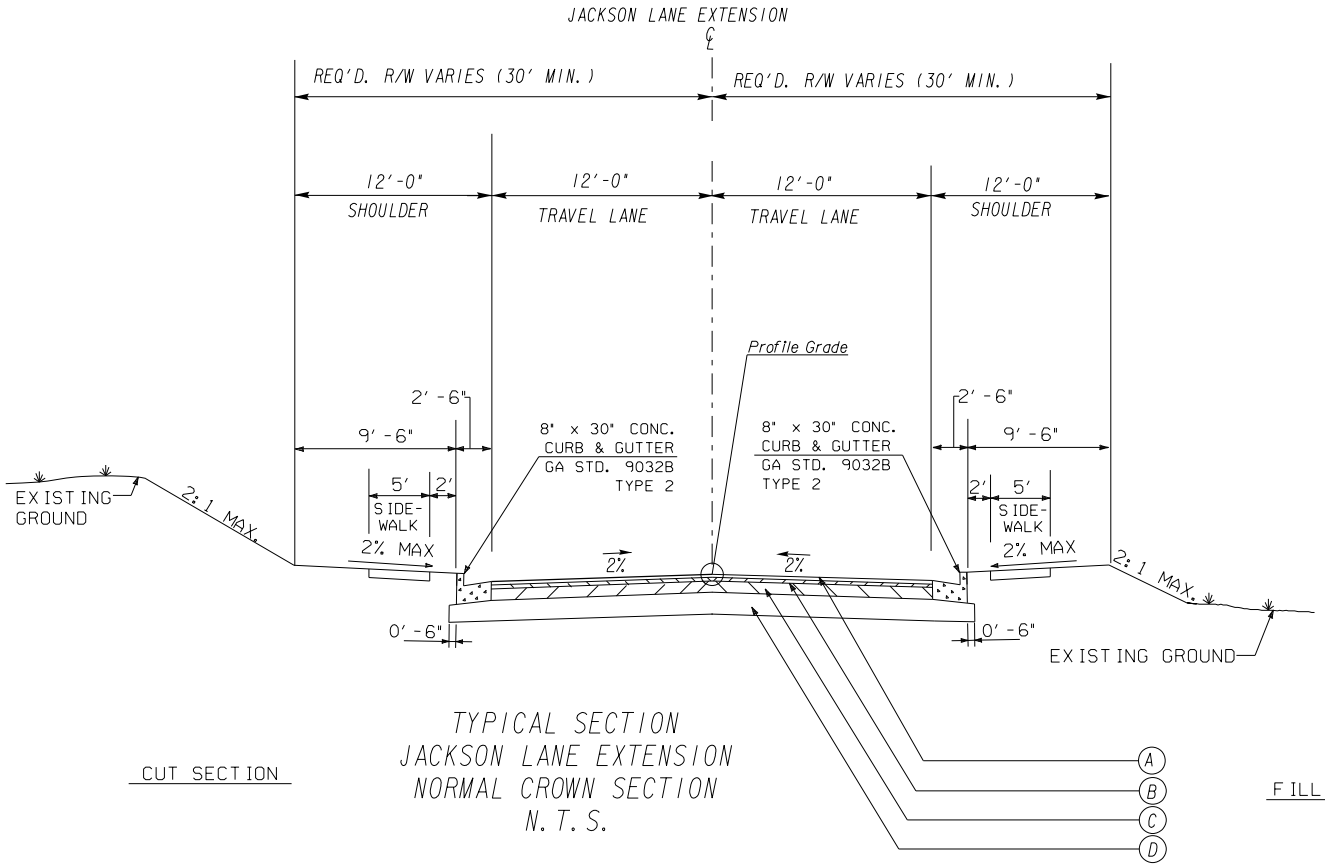


CUT SECTION

TYPICAL SECTION
JACKSON LANE EXTENSION
NORMAL CROWN SECTION
N.T.S.

FILL SECTION

PROPOSED PAVEMENT

Ⓐ RECYCLED ASPH CONC. 9.5 mm SUPERPAVE, GP 2 ONLY, INCL BITUM MATL & H LIME (135 LBS/SY)
Ⓑ RECYCLED ASPH CONC. 19 mm SUPERPAVE, GP 1 OR 2 INCL BITUM MATL & H LIME (220 lbs/SY)
Ⓒ RECYCLED ASPH CONC. 25 mm SUPERPAVE, GP 1 OR 2 INCL BITUM MATL & H LIME (440 lbs/SY)
Ⓓ GRADED AGGREGATE BASE (10")

REVISION DATES		

STATE OF GEORGIA
DEPARTMENT OF TRANSPORTATION
OFFICE:

TYPICAL SECTION
JACKSON LANE EXTENSION

DRAWING No. 5-002

1/5/2009 GPLN

Attachment 3
Detailed Cost Estimates

Georgia Department of Transportation

Interoffice Memo

FILE

PI NUMBER	0015101	PROJECT DESCRIPTION	Solomon Street @ Searcy Ave & @ Spalding Street Scoping Study
OFFICE	Program Delivery		
DATE	Wednesday, August 7, 2019		

From: Kimberly W. Nesbitt, State Program Delivery Administrator

To: Erik Rohde, P.E., State Project Review Engineer
via email Mailbox: CostEstimatesandUpdates@dot.ga.gov

Subject: **REVISIONS TO PROGRAMMED COSTS**

Project Manager:	Cherral Dempsey
Management Let Date:	N/A
Management Right of Way Date:	N/A

Summary of Programmed Costs and Proposed Revised Costs:

Estimate Type	Programmed Costs (T-Pro Without Inflation)	Last Estimate Date	Revised Cost Estimate
CONSTRUCTION	N/A	N/A	$1,555,307.31
RIGHT OF WAY	N/A	N/A	$1,015,000.00
UTILITIES	N/A	N/A	$2,947,132.82

Explanation for Cost Increase and Contingency Justification:

No previous estimates were approved. Project is a scoping phase only. Current estimate based on latest conceptual layout. 15% contingency used due to interchange reconstruction with railroad coordination required. Preliminary ROW and Utility estimates are attached. Railroad estimate is also included. Comments from Engineering Services have been addressed in this submittal.

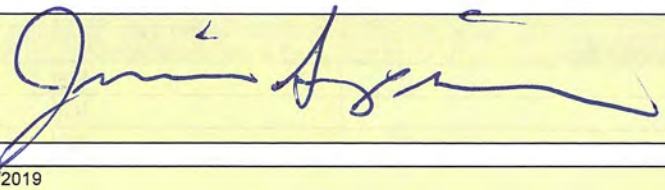
Attachments:

Validation of QCQA; Cost estimate worksheet, detailed estimate printout from 411; approved ROW estimate; preliminary utility cost estimate; preliminary railroad cost estimate

Georgia Department of Transportation

Interoffice Memo

Design Phase Leader Validation of Final QC/QA for Construction Cost Estimate Used In This Revision to Programmed Costs:

Consultant Company or GDOT Design Office:	Moreland Altobelli, an Atlas Company
Printed Name:	Jim Simpson
Title:	Program Manager
Signature:	
Date:	8/7/2019

Georgia Department of Transportation

Interoffice Memo

Cost Estimate Worksheet:

CONSTRUCTION COST ESTIMATE (Required base estimate entered from CES and should not include E&I). →	**A**	$ 1,252,236.95
ENGINEERING AND INSPECTION (The default E&I percentage is 5.0%, but may be adjusted per project scope.) →	**D**	$ 62,611.85

Construction Cost	E&I Percentage	E&I Cost
B	C	D = B x C
$ 1,252,236.95	5%	$ 62,611.85

CONTINGENCY (Refer to the Risk and Contingencies Table included in GDOT Policy 3A-9 Cost Estimating Purpose) →	**I**	$ 197,227.32

Construction Cost	E&I Cost	Construction + E&I	Contingency Percentage	Contingency Cost
E	F	G = E + F	H	I = G x H
$ 1,252,236.95	$ 62,611.85	$ 1,314,848.80	15%	$ 197,227.32

ASPHALT FUEL PRICE ADJUSTMENT (Leave blank if not applicable) →	**Q**	$ 43,231.20

Date	Aug 2019
Regular Unleaded	$2.719/ GAL
Diesel	$2.987/ GAL
Liquid AC	$532.00/ TON

Current Asphalt Fuel Index Prices can be found at the link below:

http://www.dot.ga.gov/PS/Materials/AsphaltFuelIndex

		Tons	Percentage of Asphaltic Concrete	Tons of Asphaltic Concrete	Total Monthly Tonnage of Asphalt Cement (TMT)	Monthly Asphalt Cement Price month project let (APL)	Max. Cap	Monthly Asphalt Cement Price month placed (APM)	Price Adjustment (PA)
Liquid AC	Description	J	K	L = J x K	M = Sum of Columns L, T & W	N	O	P = (N x O)+N	Q = [((P - N) / N)] x M x N
	Leveling				135.44 TN	$532.00/ TON	60%	$ 851.20	$ 43,231.20
	9.5 mm SP	450.00 TN	5.00%	22.50 TN					
	12.5 OGFC								
	12.5 PEM								
	12.5 mm SP								
	19 mm SP	730.00 TN	5.00%	36.50 TN					
	25 mm SP	1460.00 TN	5.00%	73.00 TN					
Bituminous Tack Coat		Tack Coat	GL/TN	Tons					
	Description	R	S	T = R/S					
	Tack Coat	800.00 GL	232.8234 GL/TN	3.44 TN					
Bituminous Tack Coat (Surface Treatment)		SY	GL/SY	TN					
	Description	U	V	W = (U x V) / (232.8234 GL/TN)					
	Single Surface Treatment		0.20 Gl/SY						
	Double Surface Treatment		0.44 Gl/SY						
	Triple Surface Treatment		0.71 Gl/SY						

CONSTRUCTION TOTAL COST →	**X = A+D+I+Q**	$ 1,555,307.31
RIGHT OF WAY COST →	**Y**	$ 1,015,000.00
UTILITIES COST (Provided by Utility Office) →	**Z = Sum of Reimbursable Costs**	$ 2,947,132.82

Utility Owner	Reimbursable Cost	Utility Owner	Reimbursable Cost
Georgia Power Transmission	$ 1,833,632.82		
Norfolk Southern Railroad	$ 1,113,500.00		

JOB ESTIMATE REPORT

JOB NUMBER : 0015101 SPEC YEAR: 13
DESCRIPTION: E. SOLOMON ST, SPALDING ST, SEARCY AVE
AT THE NORFOLK SOUTHERN RAILROAD

ITEMS FOR JOB 0015101

LINE	ITEM	ALT	UNITS	DESCRIPTION	QUANTITY	PRICE	AMOUNT
0006	150-1000		LS	TRAFFIC CONTROL - 0015101	1.000	100000.00	100000.00
0011	153-1300		EA	FIELD ENGINEERS OFFICE TP 3	1.000	100775.26	100775.26
0016	163-0232		AC	TEMPORARY GRASSING	1.000	583.70	583.70
0021	163-0240		TN	MULCH	1.000	283.72	283.72
0026	163-0300		EA	CONSTRUCTION EXIT	4.000	1999.40	7997.64
0031	163-0550		EA	CONS & REM INLET SEDIMENT TRAP	16.000	217.95	3487.29
0036	165-0010		LF	MAINT OF TEMP SILT FENCE, TP A	1280.000	0.78	1000.13
0041	165-0030		LF	MAINT OF TEMP SILT FENCE, TP C	490.000	1.12	551.30
0046	165-0101		EA	MAINT OF CONST EXIT	4.000	749.61	2998.46
0051	165-0105		EA	MAINT OF INLET SEDIMENT TRAP	16.000	62.79	1004.65
0056	167-1000		EA	WATER QUALITY MONITORING AND SAMPLING	2.000	276.10	552.21
0061	167-1500		MO	WATER QUALITY INSPECTIONS	18.000	643.80	11588.50
0066	171-0010		LF	TEMPORARY SILT FENCE, TYPE A	2560.000	2.43	6236.62
0071	171-0030		LF	TEMPORARY SILT FENCE, TYPE C	980.000	4.45	4364.78
0076	210-0100		LS	GRADING COMPLETE - 0015101	1.000	330568.00	330568.00
0081	310-1101		TN	GR AGGR BASE CRS, INCL MATL	4160.000	33.26	138397.46
0086	318-3000		TN	AGGR SURF CRS	50.000	37.29	1864.81
0091	402-3103		TN	REC AC 9.5 MM SP,TPII,GP2, INCL BM & HL	450.000	108.39	48778.62
0096	402-3121		TN	RECYL AC 25MM SP,GP1/2,BM&HL	1460.000	91.05	132941.89
0101	402-3190		TN	RECYL AC 19 MM SP,GP 1 OR 2 ,INC BM&HL	730.000	98.02	71560.48
0106	413-0750		GL	TACK COAT	800.000	2.36	1888.00
0111	432-5010		SY	MILL ASPH CONC PVMT,VARB DEPTH	350.000	8.86	3103.15
0116	441-0104		SY	CONC SIDEWALK, 4 IN	780.000	27.00	21060.00
0121	441-0108		SY	CONC SIDEWALK, 8 IN	130.000	72.49	9424.88
0126	441-6222		LF	CONC CURB & GUTTER/ 8X30TP2	2340.000	31.63	74031.24
0131	500-9999		CY	CL B CONC,BASE OR PVMT WIDEN	15.000	230.61	3459.27
0136	550-1180		LF	STM DR PIPE 18,H 1-10	1140.000	56.72	64666.45
0141	550-1240		LF	STM DR PIPE 24,H 1-10	180.000	73.96	13313.79
0146	611-3030		EA	REC STORM SEW MANHOLE, TYPE 1	2.000	2040.82	4081.64
0151	611-8040		EA	ADJUST DROP INLET TO GRADE	1.000	1514.95	1514.95
0156	611-8050		EA	ADJUST MANHOLE TO GRADE	1.000	1379.21	1379.22
0161	632-0003		EA	CHANGEABLE MESS SIGN,PORT,TP 3	4.000	7926.88	31707.54
0166	634-1200		EA	RIGHT OF WAY MARKERS	28.000	133.63	3741.71
0171	636-1036		SF	HWY SGN,TP1MAT,REFL SH TP 11	85.000	21.55	1831.75
0176	636-2070		LF	GALV STEEL POSTS, TP 7	13.000	10.36	134.78
0181	636-2080		LF	GALV STEEL POSTS, TP 8	120.000	10.86	1303.62
0186	653-0120		EA	THERM PVMT MARK, ARROW, TP 2	5.000	85.46	427.35
0191	653-1501		LF	THERMO SOLID TRAF ST 5 IN, WHI	3590.000	0.66	2370.01
0196	653-1502		LF	THERMO SOLID TRAF ST, 5 IN YEL	1950.000	0.66	1304.67
0201	653-1704		LF	THERM SOLID TRAF STRIPE,24,WH	135.000	7.30	986.30
0206	653-1804		LF	THERM SOLID TRAF STRIPE, 8,WH	1365.000	2.37	3246.43

JOB ESTIMATE REPORT

0211	653-3501	GLF	THERMO SKIP TRAF ST, 5 IN, WHI	150.000	0.42	64.45
0216	653-6006	SY	THERM TRAF STRIPING, YELLOW	135.000	4.96	670.05
0221	654-1001	EA	RAISED PVMT MARKERS TP 1	120.000	4.31	518.13
0226	654-1003	EA	RAISED PVMT MARKERS TP 3	30.000	4.66	140.09
0231	668-1100	EA	CATCH BASIN, GP 1	7.000	3303.00	23121.06
0236	668-2100	EA	DROP INLET, GP 1	5.000	2976.90	14884.51
0241	700-6910	AC	PERMANENT GRASSING	1.200	1460.76	1752.91
0246	700-7000	TN	AGRICULTURAL LIME	2.400	13.79	33.11
0251	700-8000	TN	FERTILIZER MIXED GRADE	0.440	743.86	327.30
0256	700-8100	LB	FERTILIZER NITROGEN CONTENT	60.000	3.55	213.07

ITEM TOTAL	1252236.95
INFLATED ITEM TOTAL	1252236.95

TOTALS FOR JOB 0015101

ESTIMATED COST:	1252236.95
CONTINGENCY PERCENT (0.0):	0.00
ESTIMATED TOTAL:	1252236.95

GEORGIA DEPARTMENT OF TRANSPORTATION
PRELIMINARY ROW COST ESTIMATE SUMMARY

Date: 4/17/2018 Project: Solomon Street Properties
Revised: County: Spalding
PI: ~~N/A~~ 0015101

Description: E. Solomon Road
Project Termini: E. Solomon Rd Improvements and a Intersection on Spalding Ave.
Existing ROW: Varies
Parcels: 14 Required ROW: Varies

Land and Improvements		$359,575.45
Proximity Damage	*$7,600.00*	
Consequential Damage	*$7,000.00*	
Cost to Cures	*$15,000.00*	
Trade Fixtures	*$0.00*	
Improvements	*$195,838.00*	
Valuation Services		$51,875.00
Legal Services		$121,950.00
Relocation		$243,000.00
Demolition		$100,000.00
Administrative		$138,000.00
TOTAL ESTIMATED COSTS		$1,014,400.45
TOTAL ESTIMATED COSTS (ROUNDED)		***$1,015,000.00***

Preparation Credits	Hours	Signature

Prepared By: [signature] CG#: LMN # 003154 4/17/2018
Approved By: [signature] CG#: 5/10/18
[signature] 5/10/18

NOTE: No Market Appreciation is included in this Preliminary Cost Estimate

Georgia Department of Transportation
Preliminary ROW Cost Estimate Worksheet

Project/County/PI Solomon Street Properties Spalding N/A

		A	B	C	D
	Land and Improvements	**Agriculture**	**Residential**	**Commercial**	**Industrial**
1	Estimate Low (ac)		$1,742.40	$1,742.40	$1,742.40
2	Estimate High (ac)	$0.00	$15,246.00	$15,246.00	$15,246.00
3	Estimate Used (ac)	$0.00	$9,583.20	$9,583.20	$9,583.20
4	Fee Simple Area (ac)	0.00	0.33	0.42	0.74
5	Fee Simple Estimate	$0.00	$3,162.46	$4,024.94	$7,091.57
6	Perm Esmt Area (ac)	0.00	0.00	0.00	0.00
7	Perm Esmt Factor	50%	0%	50%	50%
8	Perm Esmt Estimate	$0.00	$0.00	$0.00	$0.00
9	Temp Esmt Area (ac)	0.00	0.00	0.00	0.00
10	Temp East Factor	25%	25%	25%	25%
11	Temp Esmt Estimate	$0.00	$0.00	$0.00	$0.00
12	Proximity Damages	$0.00	$7,600.00	$0.00	$0.00
13	Consequential Damages	$0.00	$0.00	$0.00	$7,000.00
14	Cost to Cures	$0.00	$0.00	$0.00	$15,000.00
15	Improvements	$0.00	$65,538.00	$81,100.00	$49,200.00
16	Trade Fixtures	$0.00	$0.00	$0.00	$0.00
17					
18	PROPERTY TYPE TOTALS	$0.00	$76,300.46	$85,124.94	$78,291.57
19			SUB TOTAL PROPERTY TYPES		$239,716.97
20			Counter Offers and Condemnation Increases		$119,858.48
21					
22			**GRAND TOTAL LANDS AND IMPROVEMENTS**		$359,575.45

Georgia Department of Transportation
Preliminary ROW Cost Estimate Worksheet

Project/County/PI Solomon Street Properties Spalding N/A

		A	B	C	D
	Valuation Services	**Agriculture**	**Residential**	**Commercial**	**Industrial**
1	Appraisals (# of Parcels)	0	4	2	8
2	Estimated Fees (per Parcel)	$0.00	$2,000.00	$3,000.00	$3,000.00
3	TOTAL APPRAISALS	$0.00	$8,000.00	$6,000.00	$24,000.00
4	Sign Estimates	0	0	0	0
5	Estimated Fees	$0.00	$0.00	$0.00	$0.00
6	TOTAL SIGN ESTIMATES	$0.00	$0.00	$0.00	$0.00
7	Specialty Reports	0	0	1	0
8	Estimated Fees	$0.00	$0.00	$3,500.00	$0.00
9	TOTAL SPECIALTY REPORTS	$0.00	$0.00	$3,500.00	$0.00
10	Septic/Well Reports	0	0	0	0
11	Estimated Fees	$0.00	$0.00	$0.00	$0.00
12	TOTAL SEPTIC/WELL REPORTS	$0.00	$0.00	$0.00	$0.00
13					
14					
15					
16	TOTAL VALUATION FEES	$0.00	$8,000.00	$9,500.00	$24,000.00
17			SUB TOTAL VALUATION SERVICES		$41,500.00
18			Updates and Incidentals (Min $2,500 or 25%)		$10,375.00
19			**GRAND TOTAL VALUATION SERVICES**		$51,875.00

Georgia Department of Transportation
Preliminary ROW Cost Estimate Worksheet

Project/County/PI Solomon Street Properties Spalding N/A

		A	B	C	D
	Legal Services	**Parcels**	**Estimated Fees**		**TOTALS**
1	Meeting with Attorney	14	$125.00		$1,750.00
2	Preliminary Titles	14	$200.00		$2,800.00
3	Closing and Final Title	14	$300.00		$4,200.00
4	Recording Fees	14	$50.00		$700.00
5	Condemnation Filing	3	$5,000.00		$15,000.00
6	Litigation Costs	3	$25,000.00		$75,000.00
7	Updates and Incidentials	3	$7,500.00		$22,500.00
8					
9					
10					
11					
12					
13					
14					
15					
16					
17			**GRAND TOTAL LEGAL SERVICES**		$121,950.00

Georgia Department of Transportation
Preliminary ROW Cost Estimate Worksheet

Project/County/PI Solomon Street Properties Spalding N/A

		A	B	C	D
	Relocation	**Displacements**	**Estimated Costs**		**TOTALS**
1	Business Displacement	1	$15,000.00		$15,000.00
2	Residential Tenant	0	$20,000.00		$0.00
3	Residential Owner	5	$40,000.00		$200,000.00
4	Pro-Rata Taxes	14	$1,000.00		$14,000.00
5	Property Pin Replacement	14	$1,000.00		$14,000.00
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17			**GRAND TOTAL RELOCATION**		$243,000.00

Georgia Department of Transportation
Preliminary ROW Cost Estimate Worksheet

Project/County/PI Solomon Street Properties Spalding N/A

		A	B	C	D
	Demolition	**Items/Improvements**	**Estimated Costs**		**TOTALS**
1	Residential Structures	5	$15,000.00		$75,000.00
2	Commercial Structures	1	$25,000.00		$25,000.00
3	Hotels/Apartments	0	$60,000.00		$0.00
4	UST's - Dispensers	0	$50,000.00		$0.00
5	Billboards	0	$8,000.00		$0.00
6	Signs - Light Standards	0	$1,500.00		$0.00
7	Water Vaults	0	$15,000.00		$0.00
8	Gas/Water Service Separation	0	$2,500.00		$0.00
9					
10					
11					
12					
13					
14					
15					
16					
17			**GRAND TOTAL DEMOLITION**		$100,000.00

Georgia Department of Transportation
Preliminary ROW Cost Estimate Worksheet

Project/County/PI Solomon Street Properties Spalding N/A

		A	B	C	D
	Administrative	**Parcels**	**Man hours per Parcel**		**TOTALS**
1	Pre-Acquisition	14	40		$28,000.00
2	Acquisition	14	100		$70,000.00
3	Relocation	6	50		$15,000.00
4	Administrative Appeals	4	50		$10,000.00
5	Post-Acquisition	3	100		$15,000.00
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17			**GRAND TOTAL INHOUSE**		$138,000.00

Reimbursable Utility Cost Estimate
East Solomon Street Realignment, Griffin , Georgia Spalding County
P.I. 0015101

Project # P.I. 0015101 February 14, 2019 1022 Feet Long

Utility	Quantity	Unit	Cost per unit	Cost
Georgia Power Transmission	3	Mono pole Struct	$611,210.94	$1,833,632.82
Norfolk Southern Railroad				
See attached preliminary railroad estimate from GDOT Utilities				$1,113,500.00
			Total	$2,947,132.82

DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA

INTERDEPARTMENT CORRESPONDENCE

FILE: **PI # 0015101, Spalding County** **OFFICE: State Utilities Office**

FROM: Jill Franks for: **Patrick Allen, State Utilities Administrator** **DATE: December 7, 2018**

TO: Kimberly Nesbitt, State Program Delivery Administrator
Attn: Cherral Dempsey, Project Manager

SUBJECT: **PRELIMINARY RAILROAD COST (CONCEPT ESTIMATE)**

A review of railroads located within the project limits on the above referenced project has been conducted based on the proposed concept layout. Listed below is a breakdown of the estimated railroad costs:

FACILITY OWNER	NON-REIMBURSABLE	REIMBURSABLE
Central of Georgia Railroad Company		
– P.E. review cost for at-grade railroad crossing	**$0.00**	**$ 31,000.00-GDOT**
– Const. cost for at-grade railroad crossing	**$0.00**	**$ 350,000.00-GDOT**
– P.E. review cost for warning devices	**$0.00**	**$ 25,000.00-GDOT**
– Const. cost for warning devices	**$0.00**	**$ 500,000.00-GDOT**
– Const. cost for Track Work	**$0.00**	**$ 207,500.00-GDOT**
Total Reimbursement Cost:	**$0.00**	**$ 1,113,500.00**

Total railroad surface work and warning device reimbursable cost for the above project is estimated to be:

$1,113,500.00

Please note that this amount does not include other reimbursable utility costs that may be associated with this project. This project is GDOT funded.

If you have any questions, please contact Jill Franks, (404) 631-1370, jfranks@dot.ga.gov or Marcela Coll, (404)631-1372 mcoll@dot.ga.gov.

PA:JLF:mgc

cc: Yulonda Pride-Foster, Utilities Preconstruction Manager
Angela Robinson, State Financial Management Administrator
Scott Parker, District 3 Utilities Manager
Kevin Cowan, Utilities Railroad Crossing Manager

Attachment 4
Crash Summaries

Crash Data

The intersection crash data was obtained from the Georgia Electronic Accident Reporting System (GEARS) for the years 2013 through 2017. The data provided recorded crashes including the number of injuries and fatalities.

Summary of Type of Crashes
Intersection of E. Solomon St, Spalding St, Searcy Ave at Norfolk Southern Crossing

Year	Total Crashes	Injuries	Fatalities	Angle	Rear-end	Head-on	Sideswipe	Hit an Object
2013	4	0	0	2	2	0	0	0
2014	1	0	0	1	0	0	0	0
2015	1	0	0	0	1	0	0	0
2016	0	0	0	0	0	0	0	0
2017	2	0	0	0	0	0	1	1
Totals	8 (100%)	0 (0.0%)	0 (0.0%)	3 (37.5%)	3 (37.5%)	0 (0.0%)	1 (12.5%)	1 (12.5%)

Attachment 5
Design Traffic Diagrams

Department of Transportation
State of Georgia

INTERDEPARTMENT CORRESPONDENCE

FILE Spalding County
P.I. # 0015101

OFFICE Planning

DATE July 5, 2017

FROM Cynthia L. VanDyke, State Transportation Planning Administrator

TO Albert Shelby, P.E., State Program Delivery Engineer
Attention: Cherral Dempsey

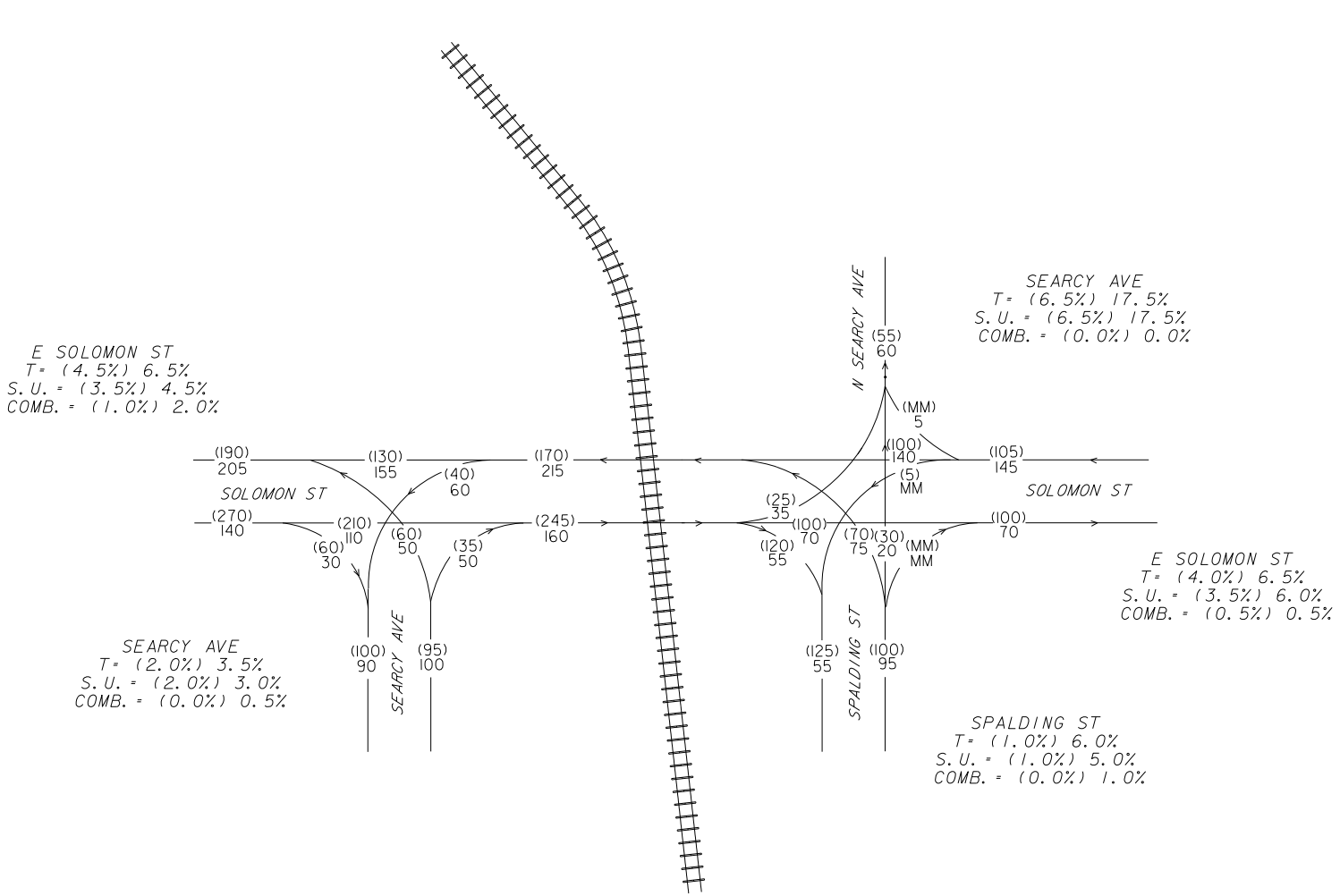
SUBJECT **Reviewed** Traffic Forecasting Projection Diagrams for SOLOMON STREET @ SEARCY AVE &@ SPALDING STREET SCOPING STUDY

Per request, we have reviewed the Traffic Forecasting Projection Diagrams for the above project. Based on the information furnished, we find the Traffic Forecasting Projection Diagrams to be satisfactory, and approve the Traffic Forecasting Projection Diagrams.

If you have any questions concerning this information please contact Andre Washington at (404) 631-1925.

CLV/AMW

COUNTY	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
SPALDING	GA	0015101		



2017 EXISTING PM DHV = (000)
2017 EXISTING AM DHV = 000
MINOR MOVEMENT = MM

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DRAWING No. 10-0001

COUNTY	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
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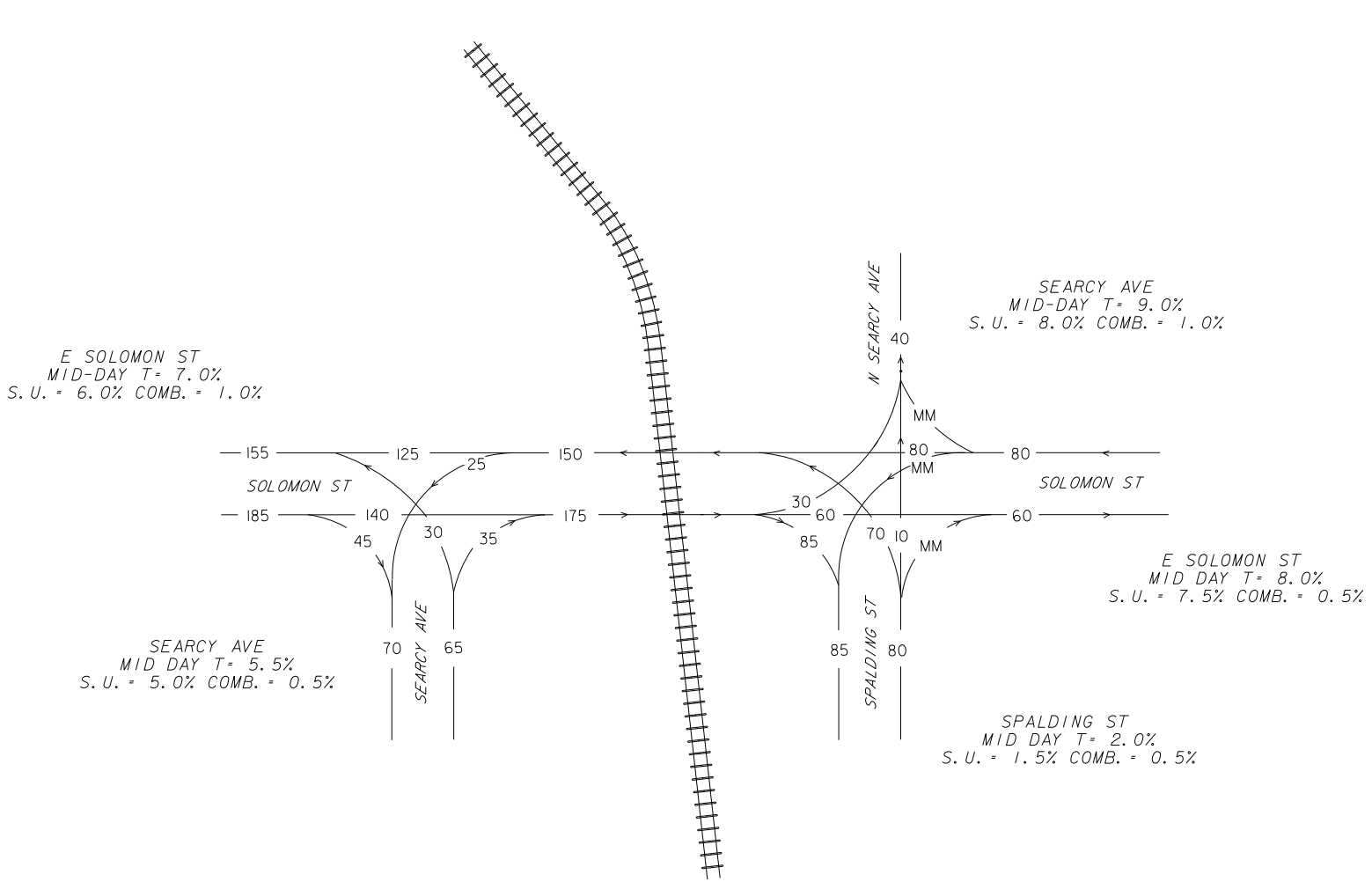

2017 EXISTING MID-DAY DHV = 000

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DRAWING No.
10-0002

COUNTY	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
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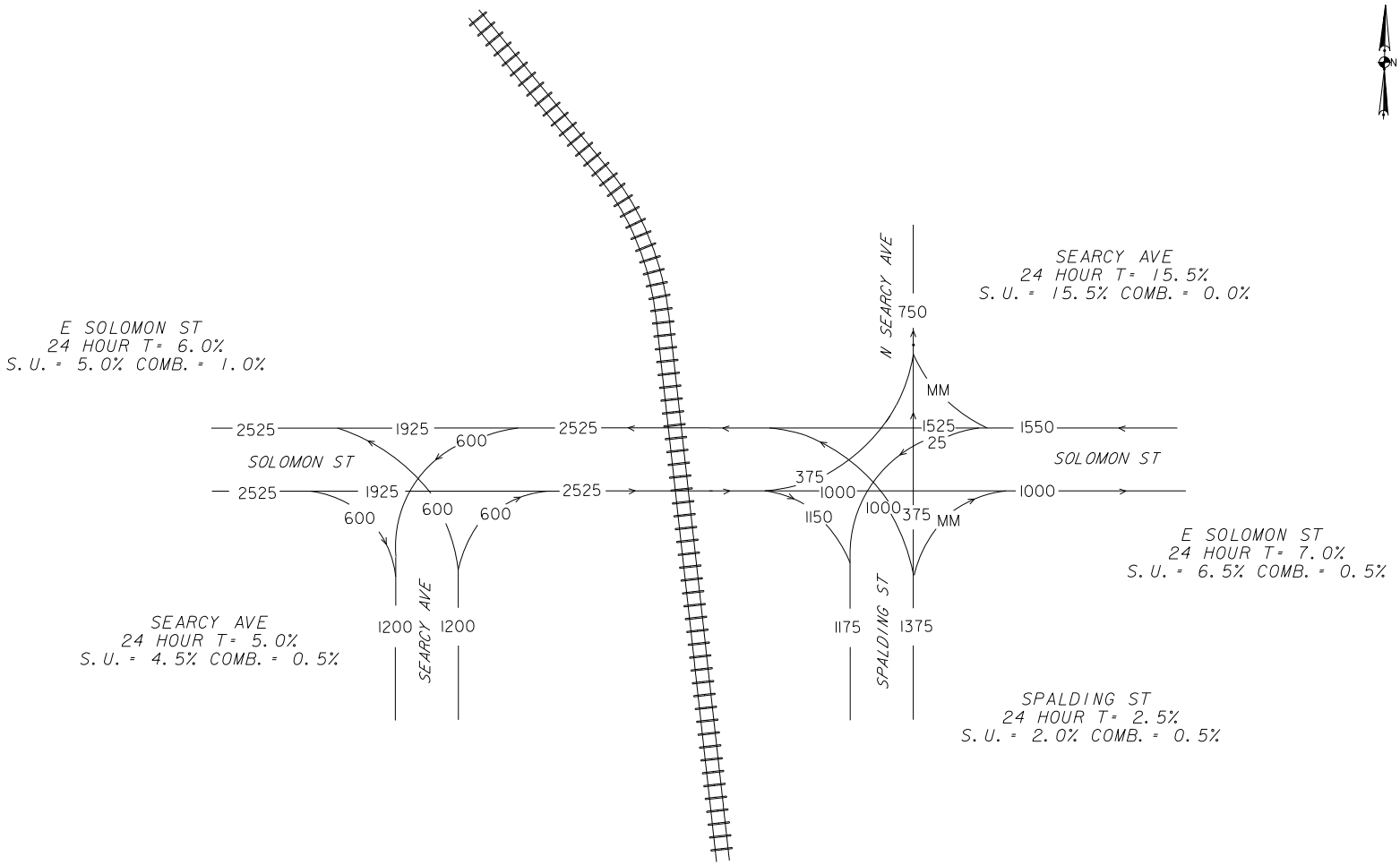

2017 EXISTING AADT = 000

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DRAWING No.
10-0003

COUNTY	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
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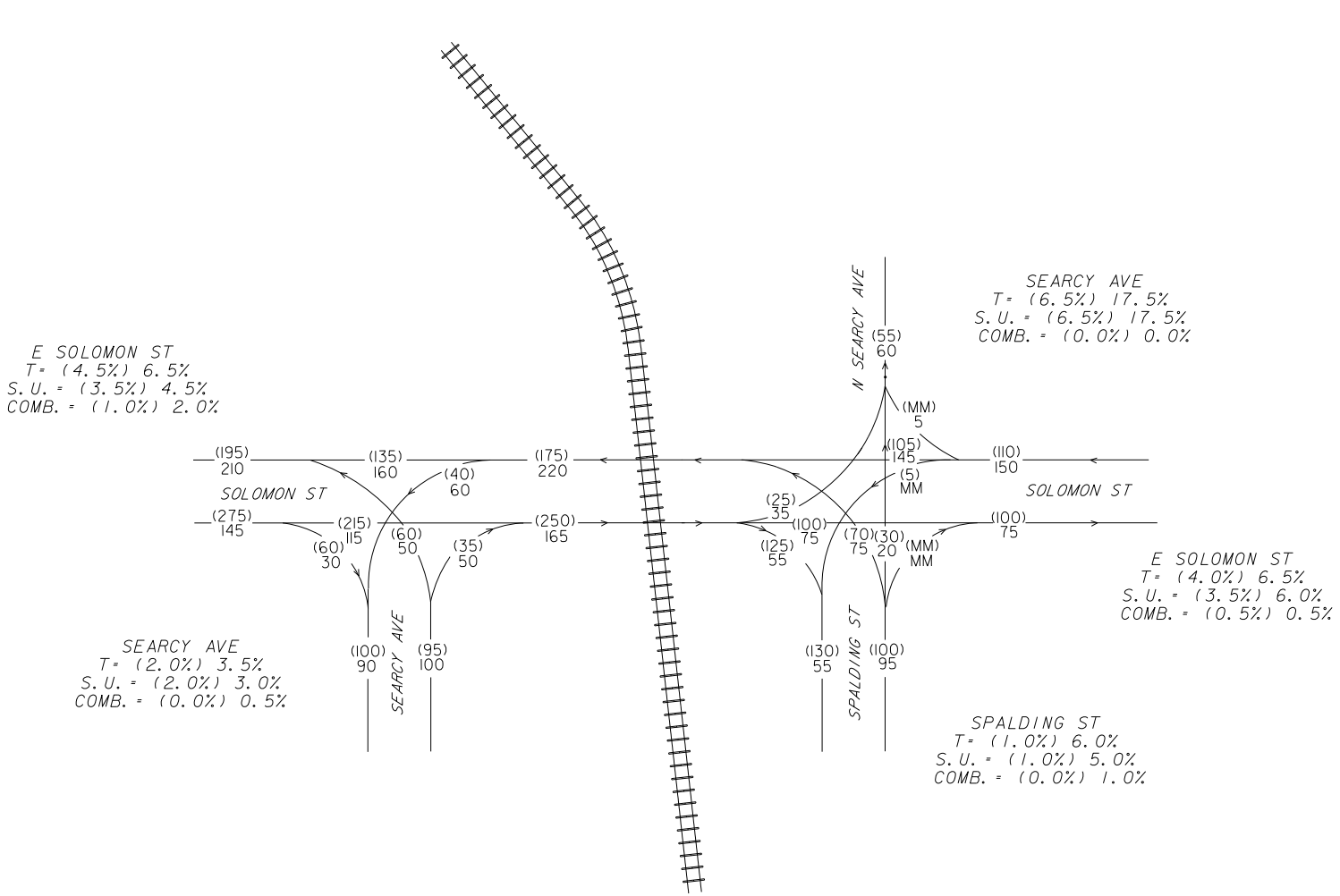

2022 NO-BUILD PM DHV = (000)
2022 NO-BUILD AM DHV = 000
MINOR MOVEMENT = MM

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DRAWING No. 10-0004

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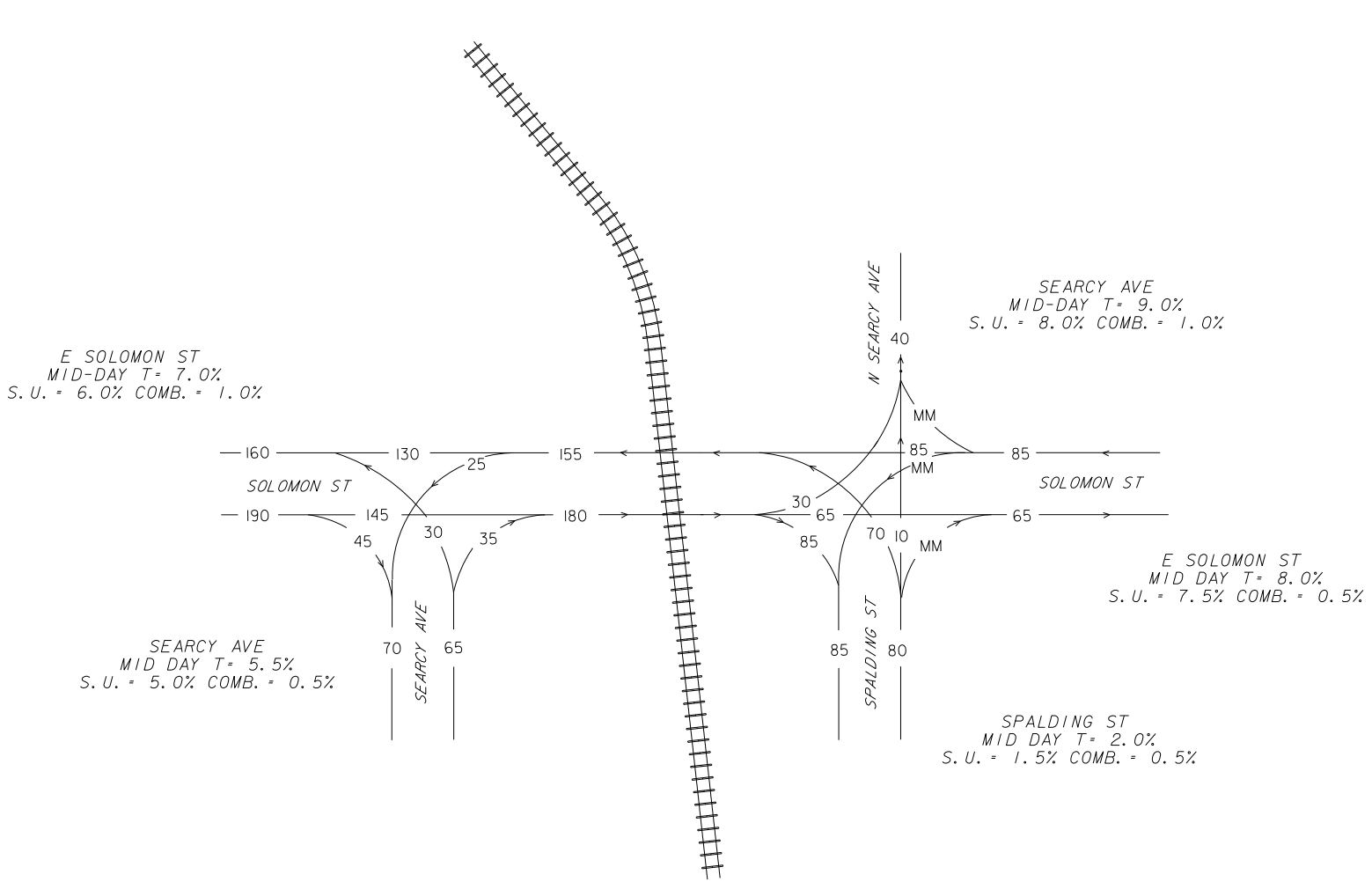

2022 NO-BUILD MID-DAY DHV = 000

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DRAWING No.
10-0005

COUNTY	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
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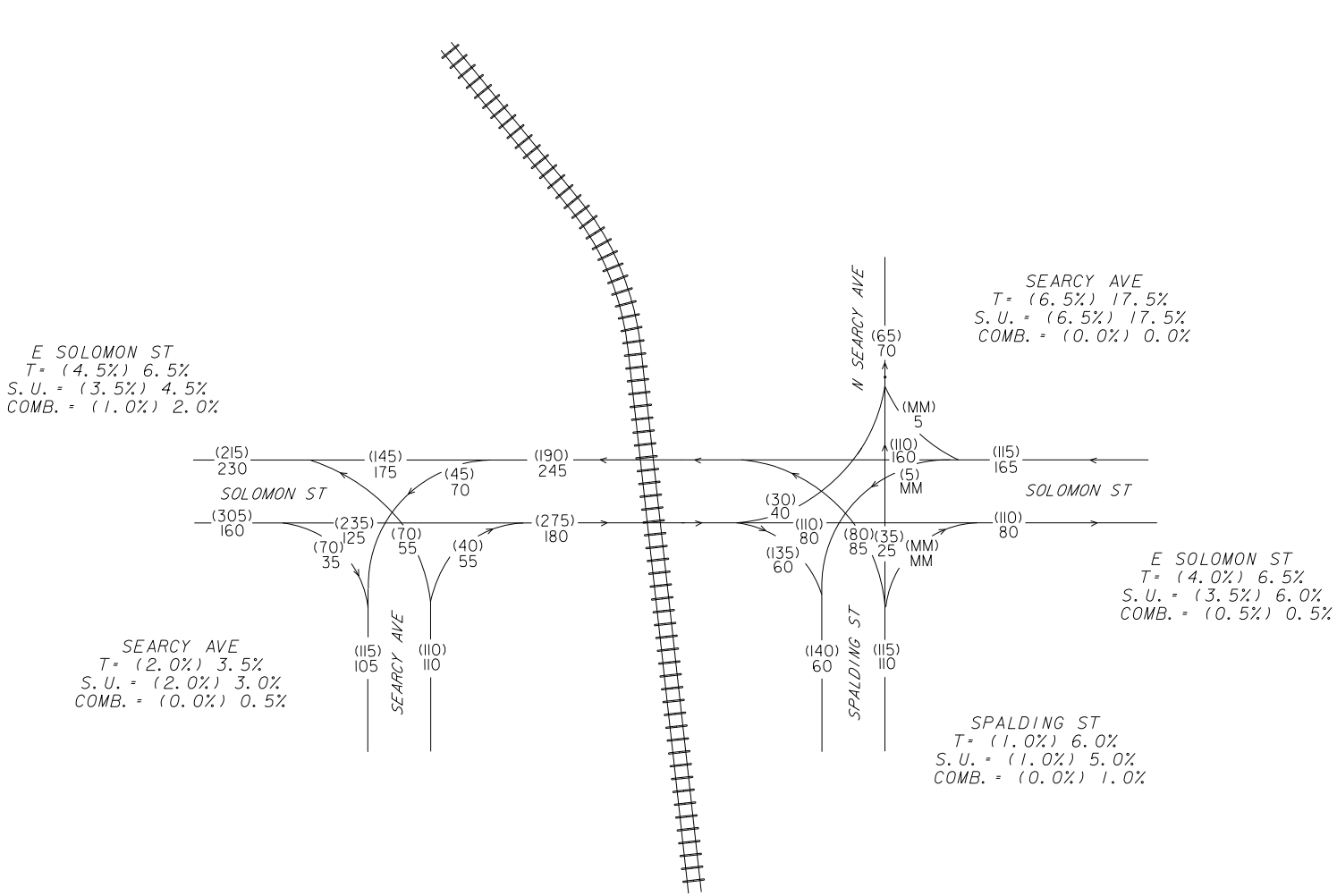

2042 NO-BUILD PM DHV = (000)
2042 NO-BUILD AM DHV = 000
MINOR MOVEMENT = MM

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DRAWING No. 10-0006

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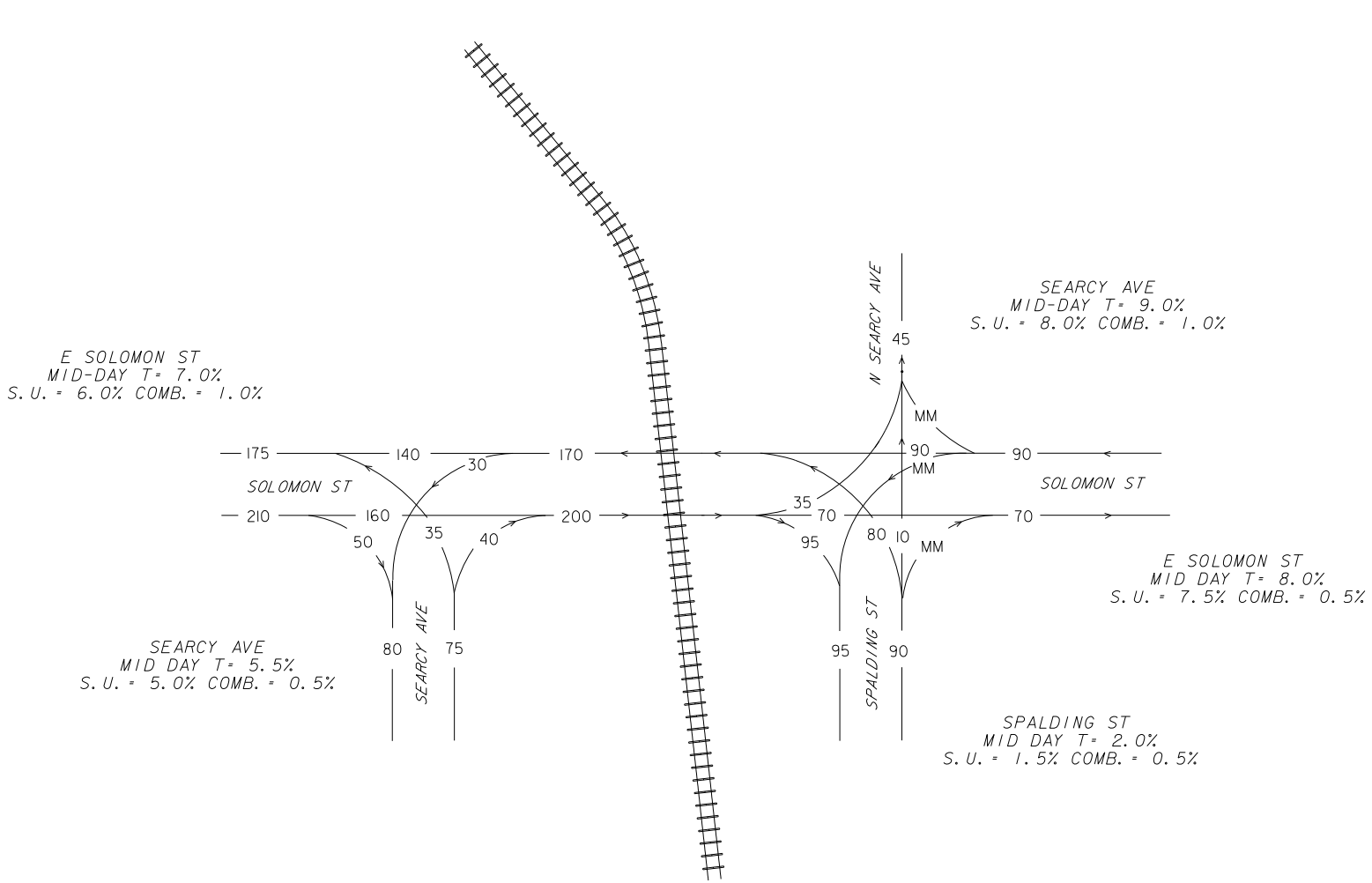

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DRAWING No.
10-0007

COUNTY	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
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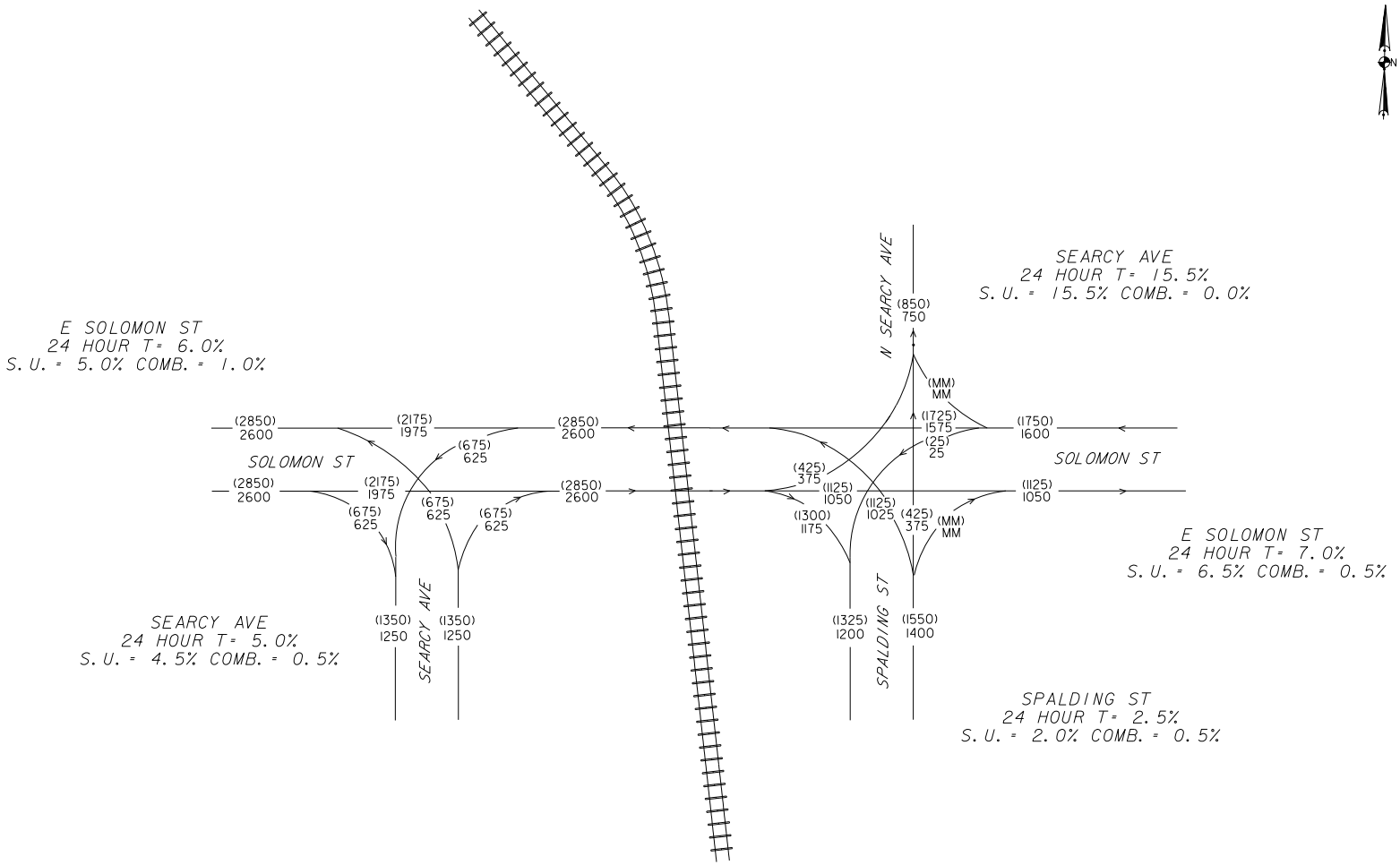

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DRAWING No. 10-0008

COUNTY	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
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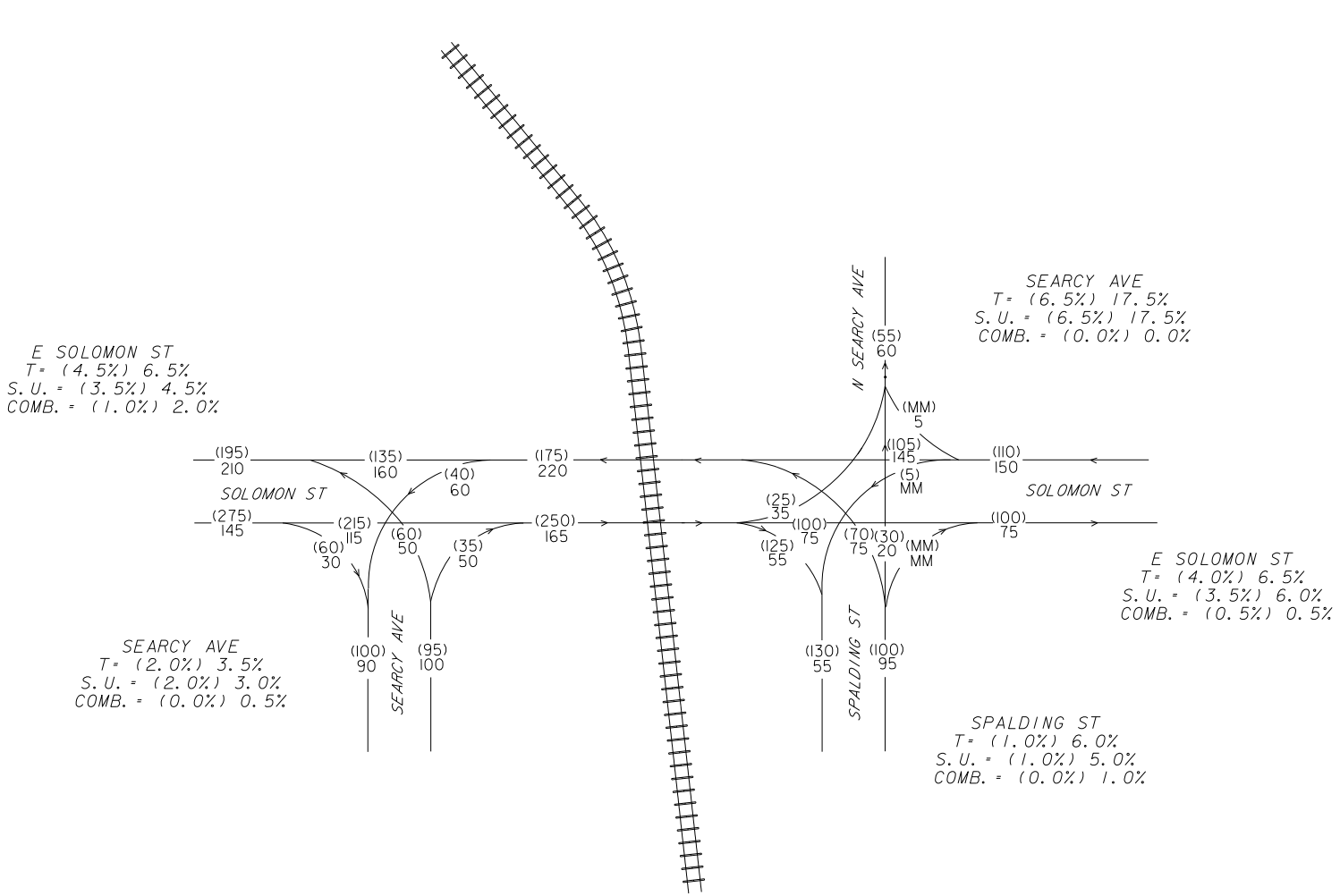

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MINOR MOVEMENT = MM

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DRAWING No.
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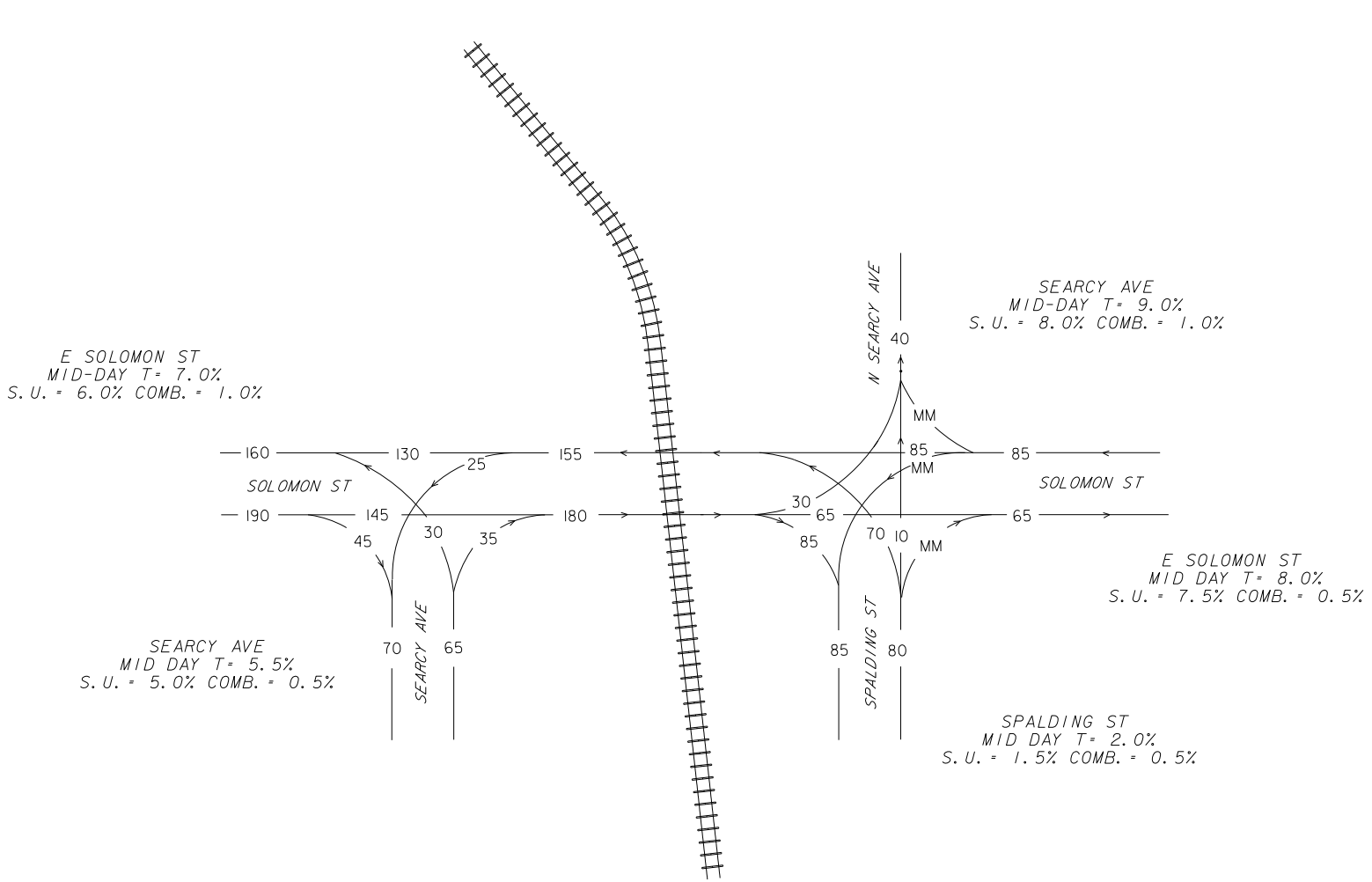

2022 BUILD MID-DAY DHV = 000

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10-0010

COUNTY	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
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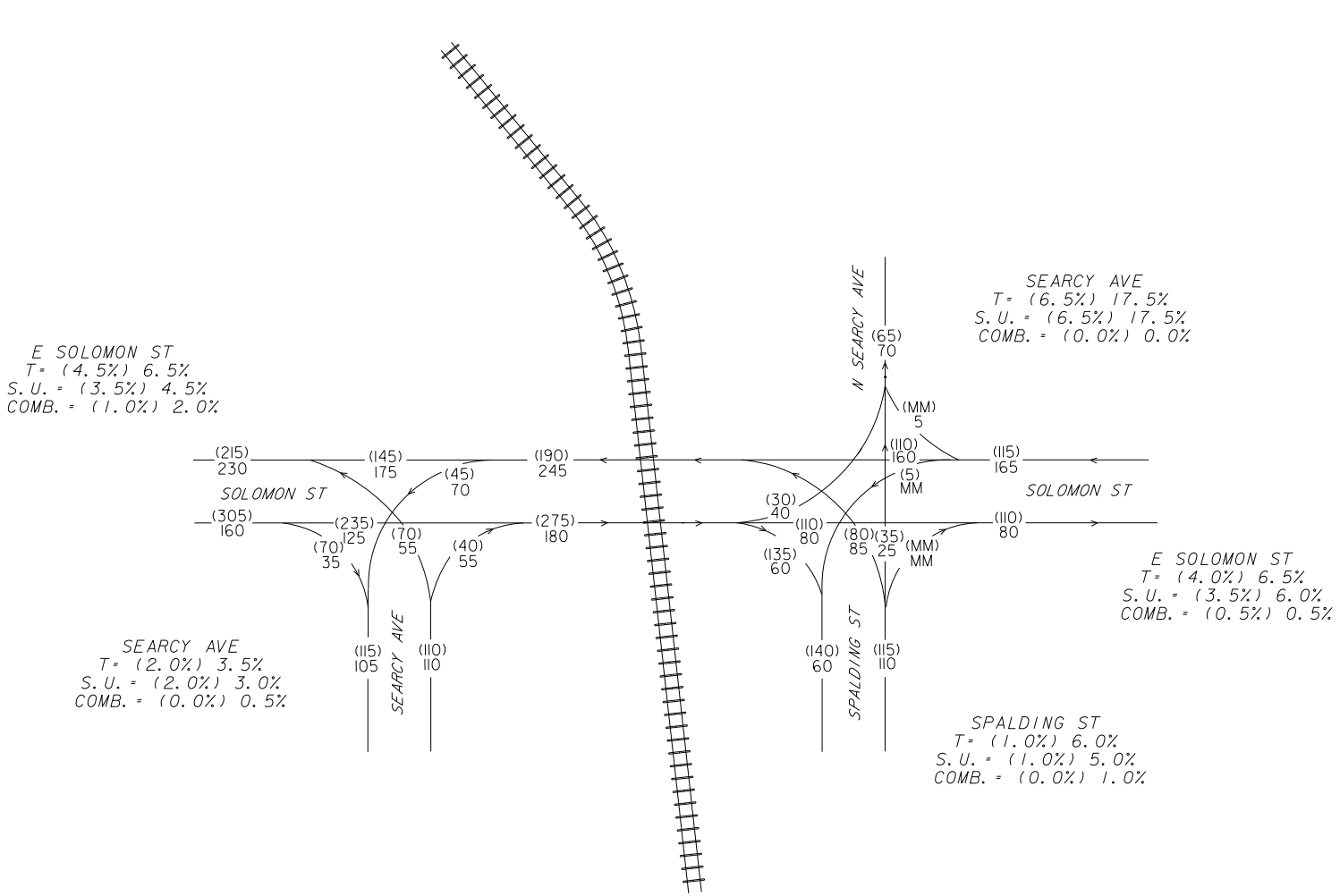

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MINOR MOVEMENT = MM

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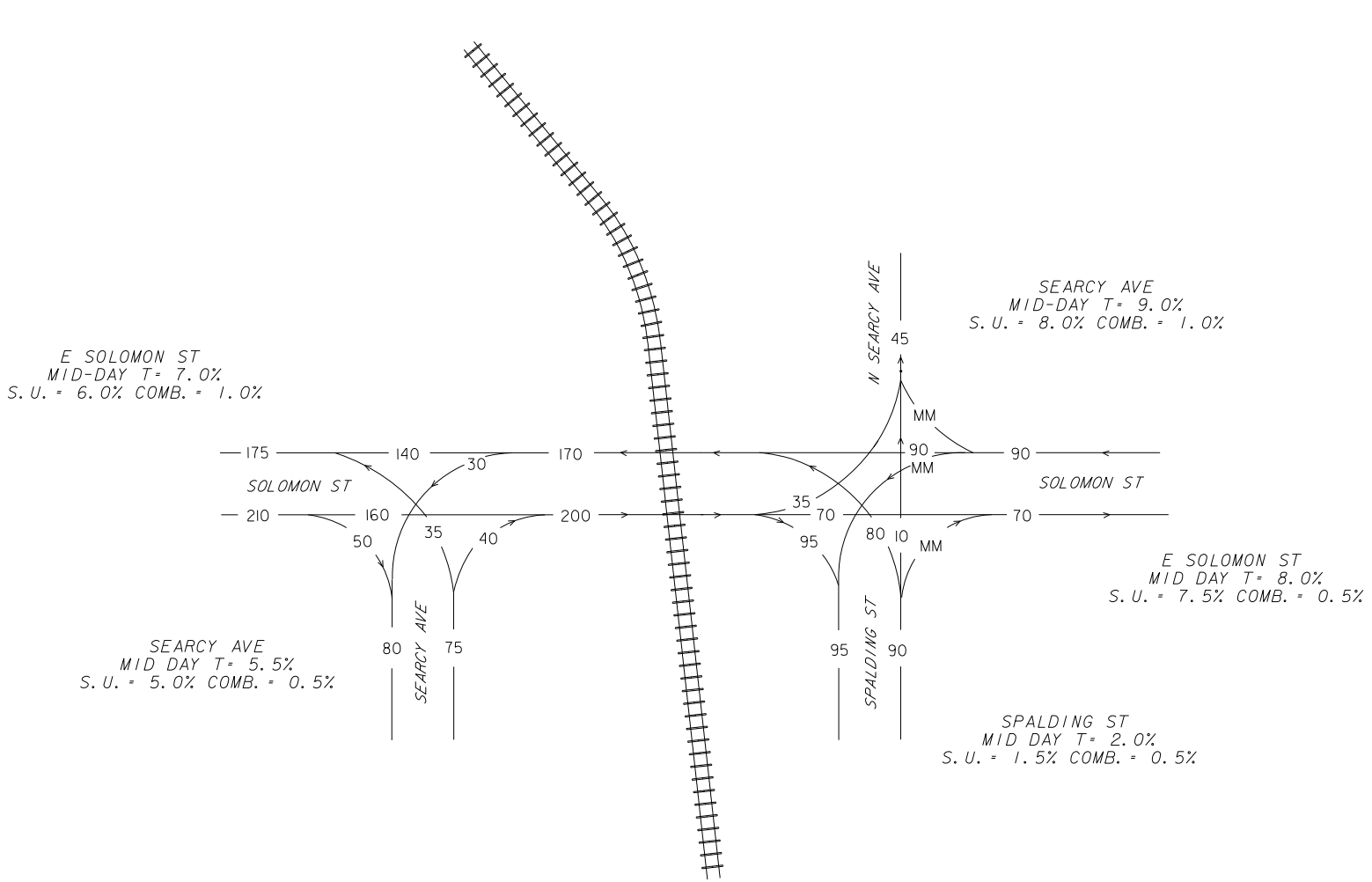

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10-0012

COUNTY	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
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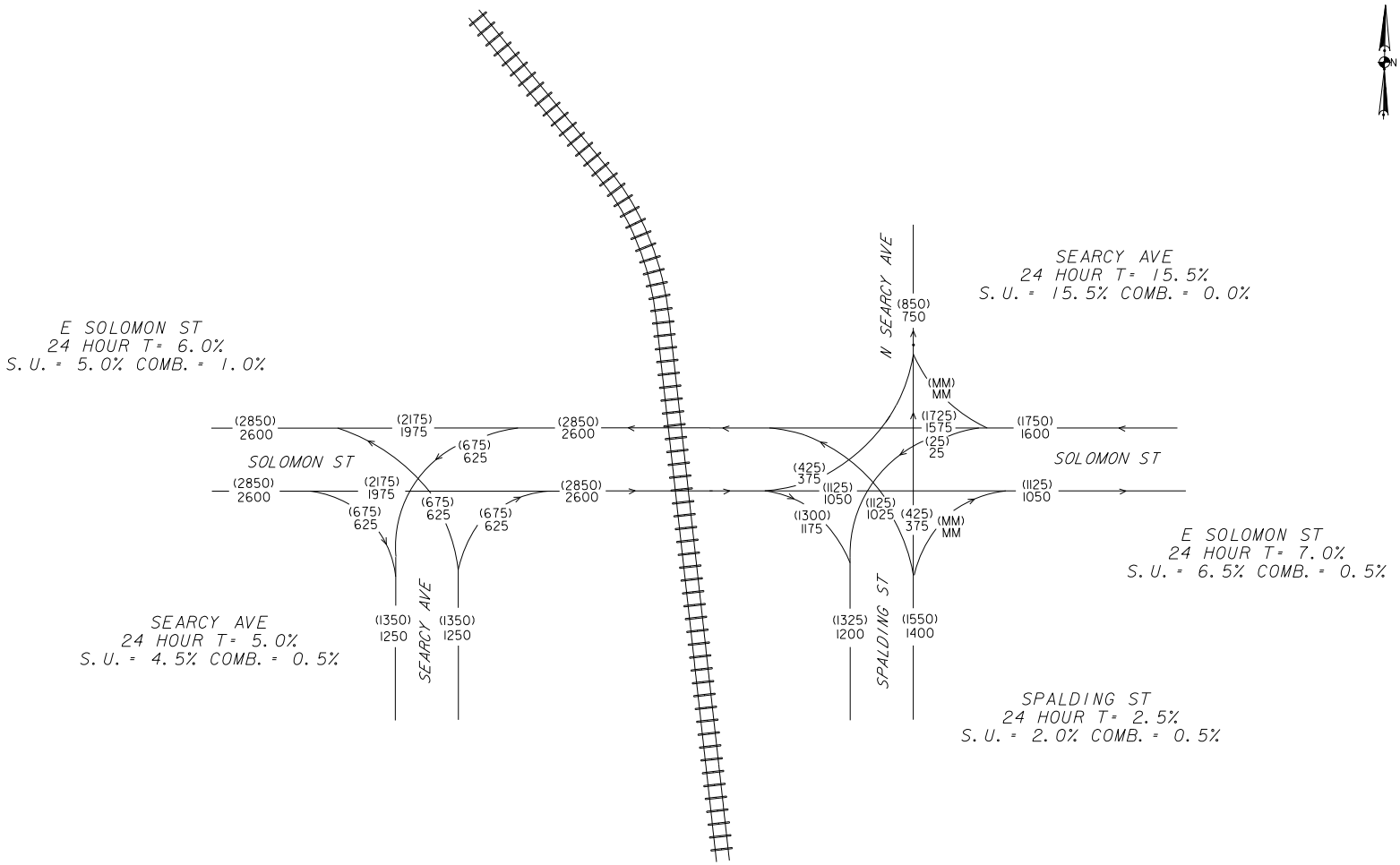

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2022 BUILD AADT = 000

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DRAWING No. 10-0013

COUNTY	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
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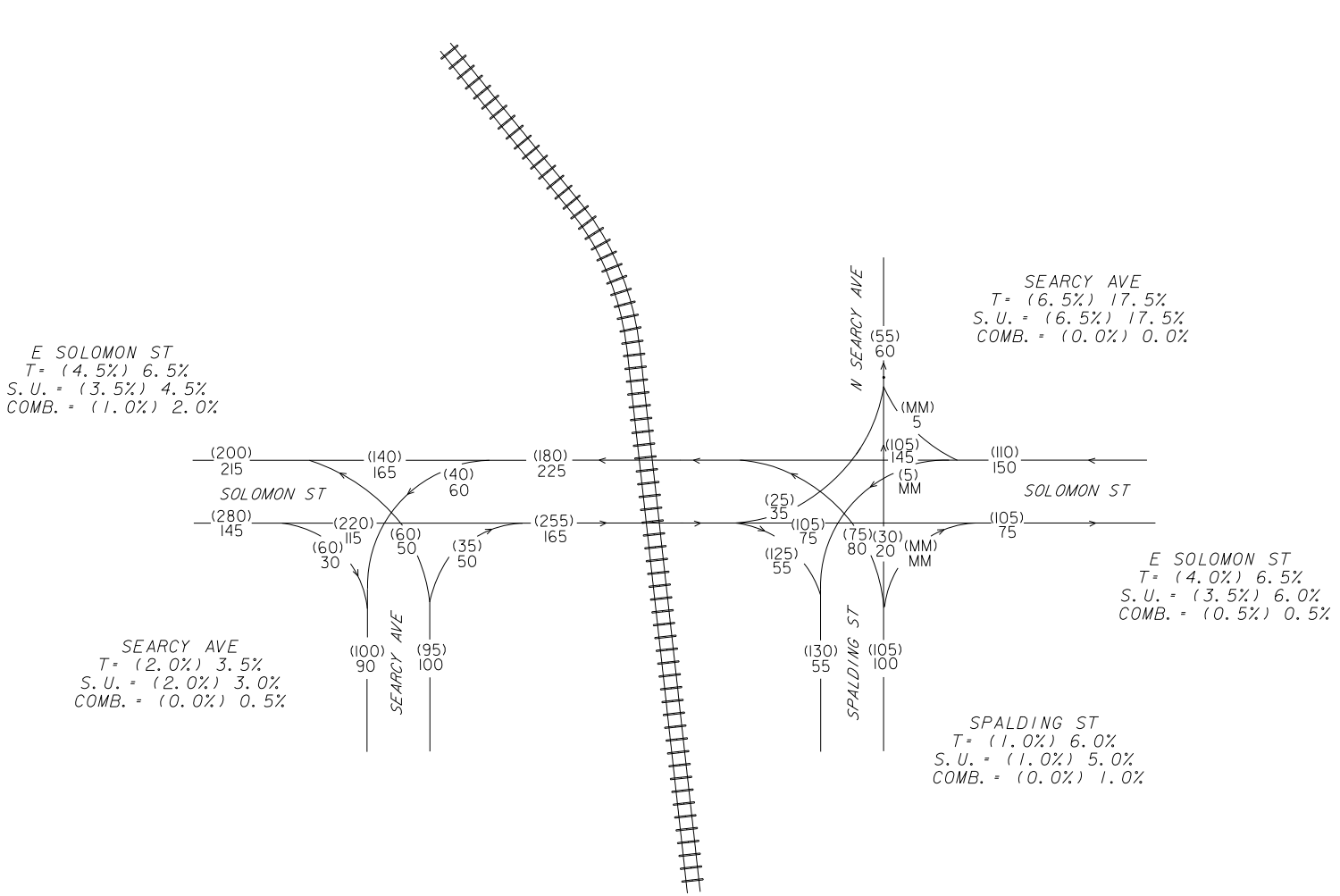

2024 NO-BUILD PM DHV = (000)
2024 NO-BUILD AM DHV = 000
MINOR MOVEMENT = MM

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DRAWING No.
10-0014

COUNTY	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
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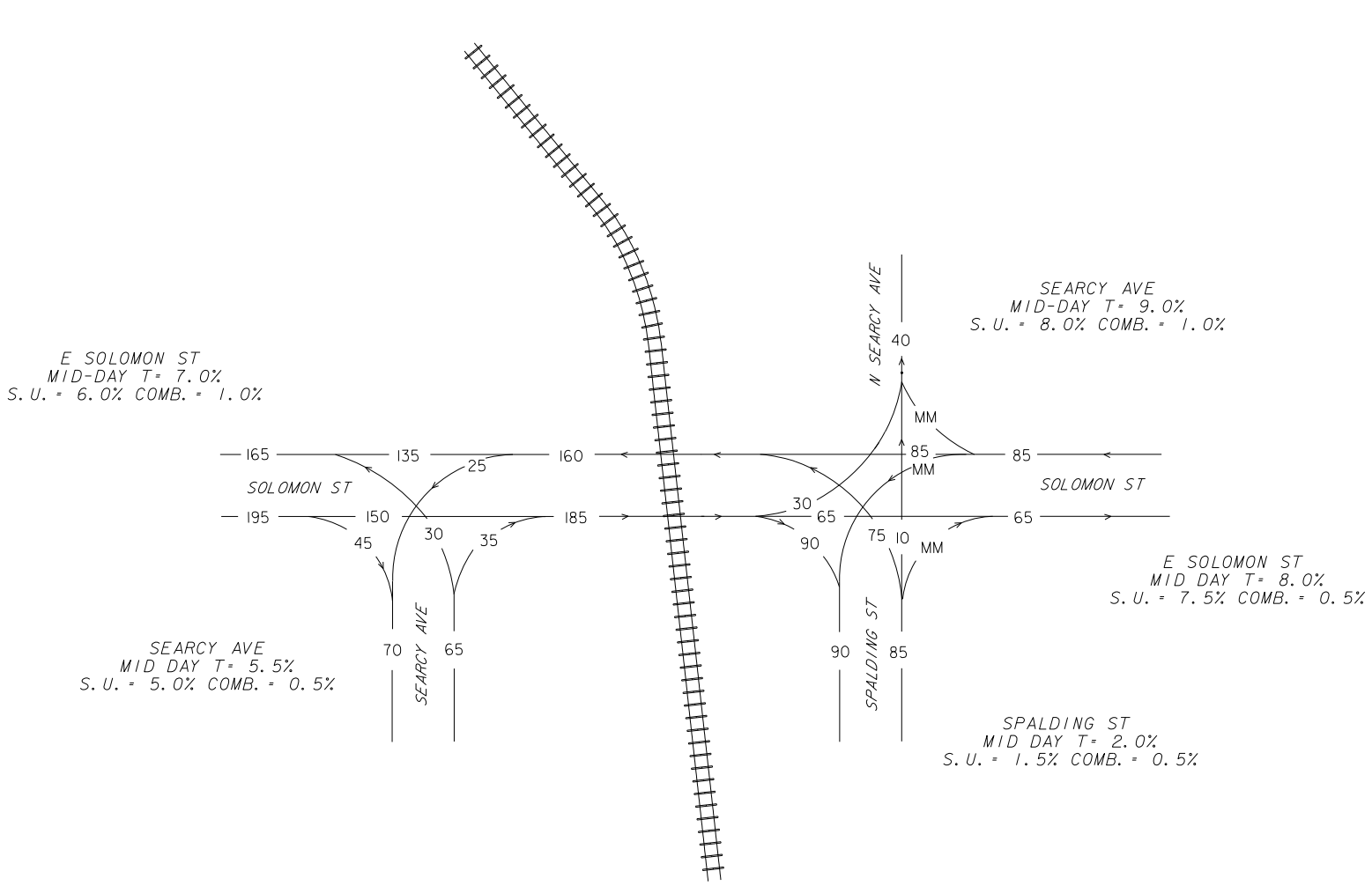

2024 NO-BUILD MID-DAY DHV = 000

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DRAWING No.
10-0015

COUNTY	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
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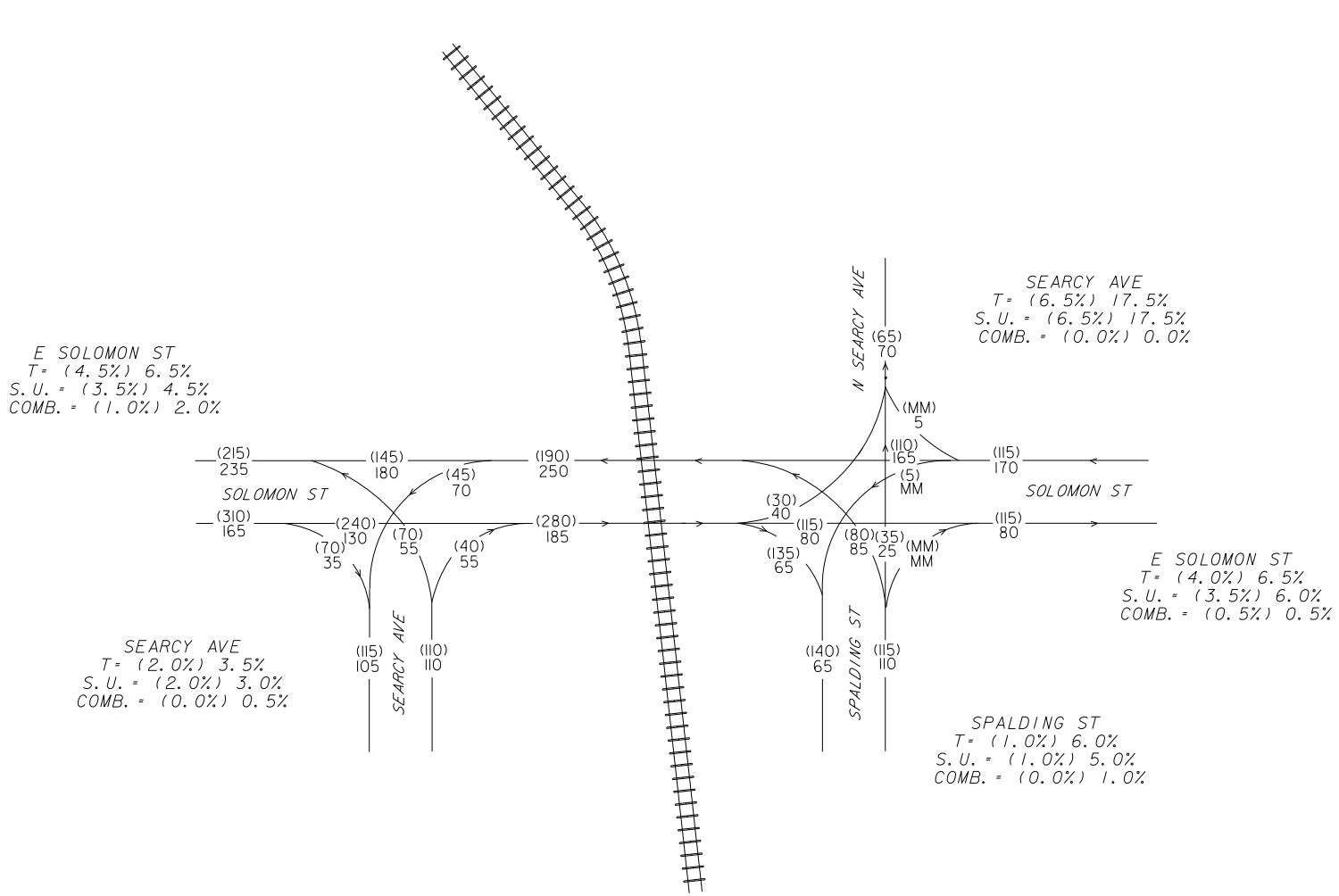

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2044 NO-BUILD AM DHV = 000
MINOR MOVEMENT = MM

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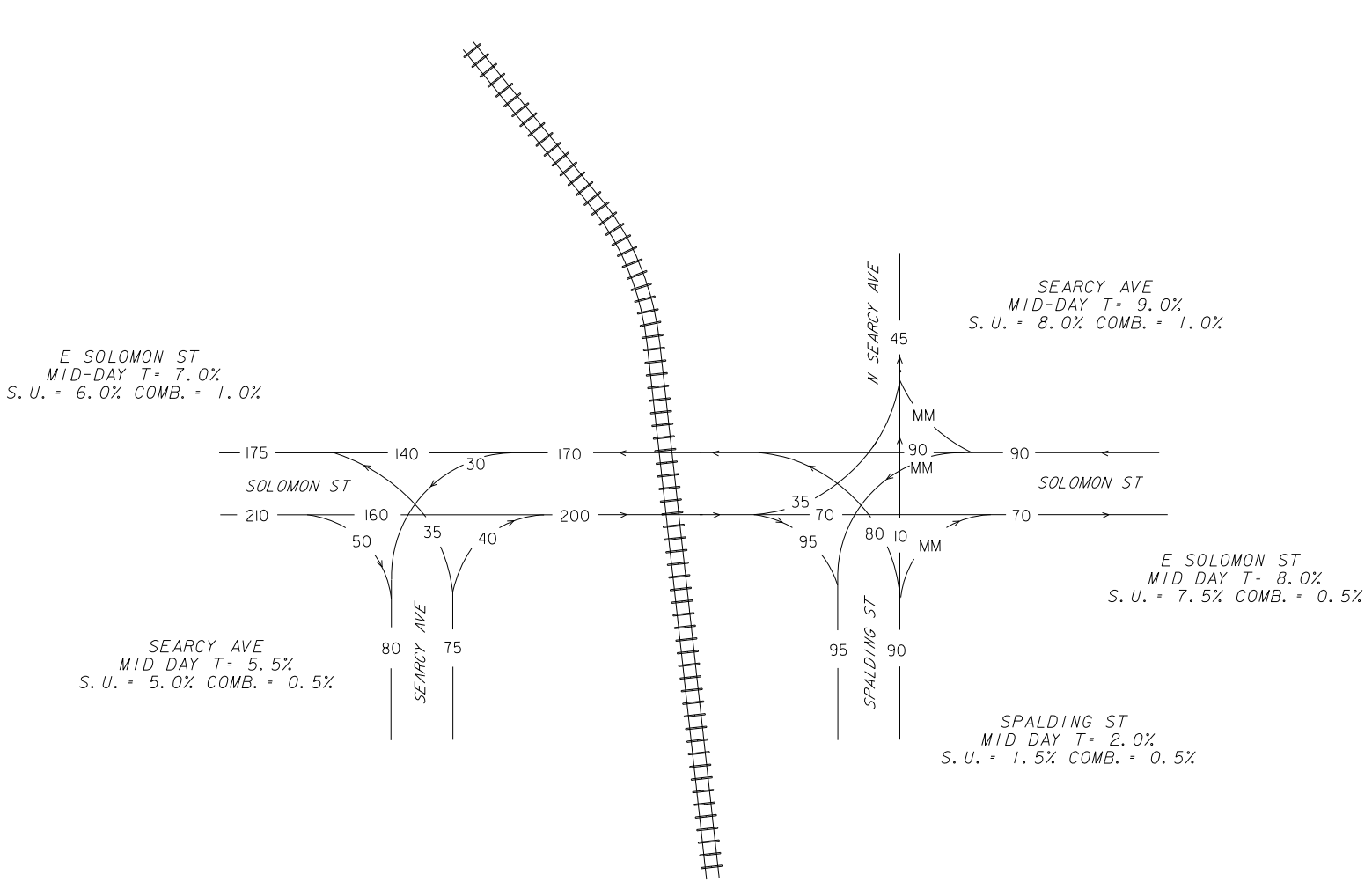
SOLOMON ST @
SEARCY AVE &
SPALDING STREET

DRAWING No. 10-0016

COUNTY	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
SPALDING	GA	0015101		



2044 NO-BUILD MID-DAY DHV = 000

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GRIFFIN
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REVISION DATES	

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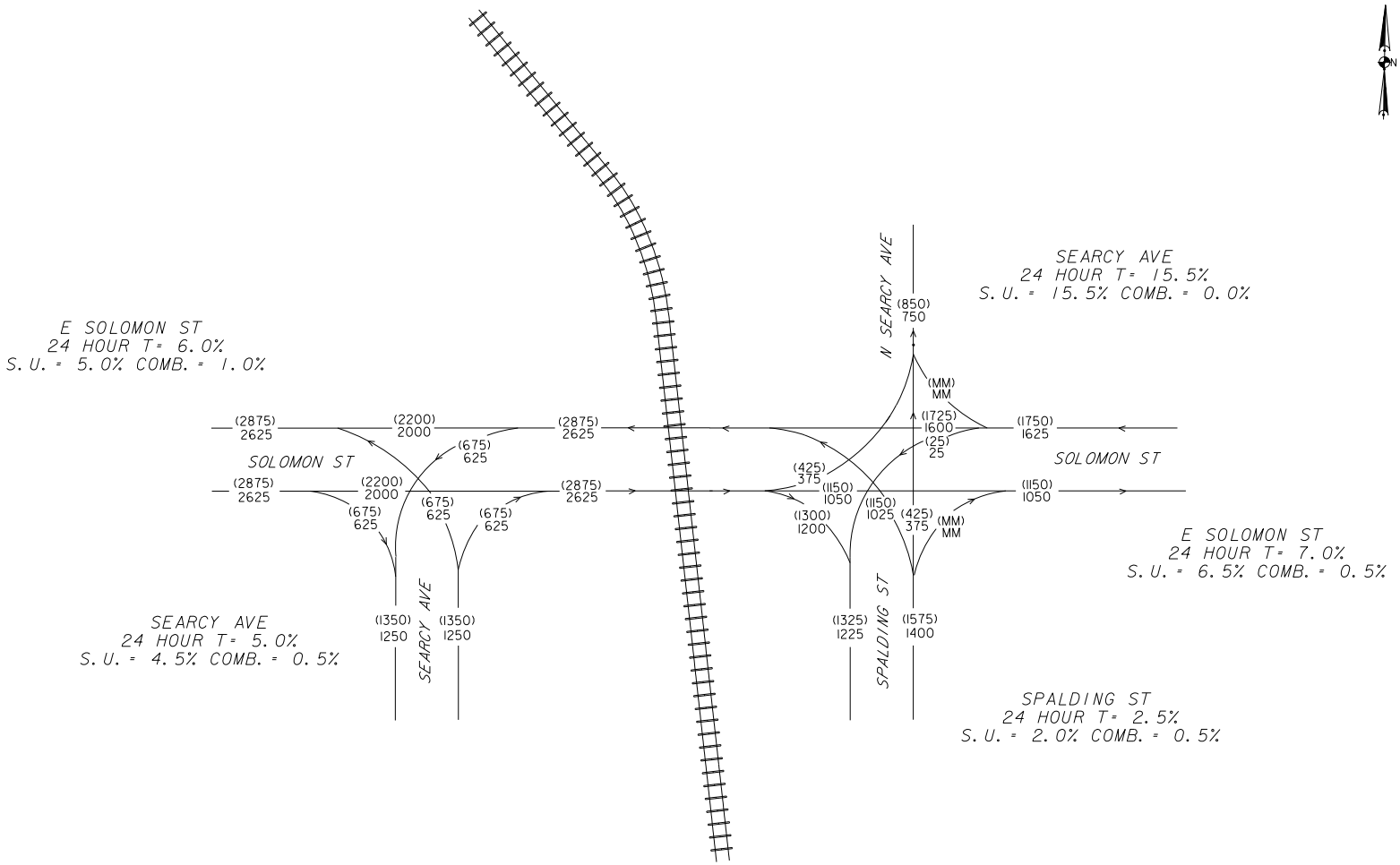
SPALDING STREET

DRAWING No.
10-0017

COUNTY	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
SPALDING	GA	0015101		



2044 NO-BUILD AADT = (000)
2024 NO-BUILD AADT = 000

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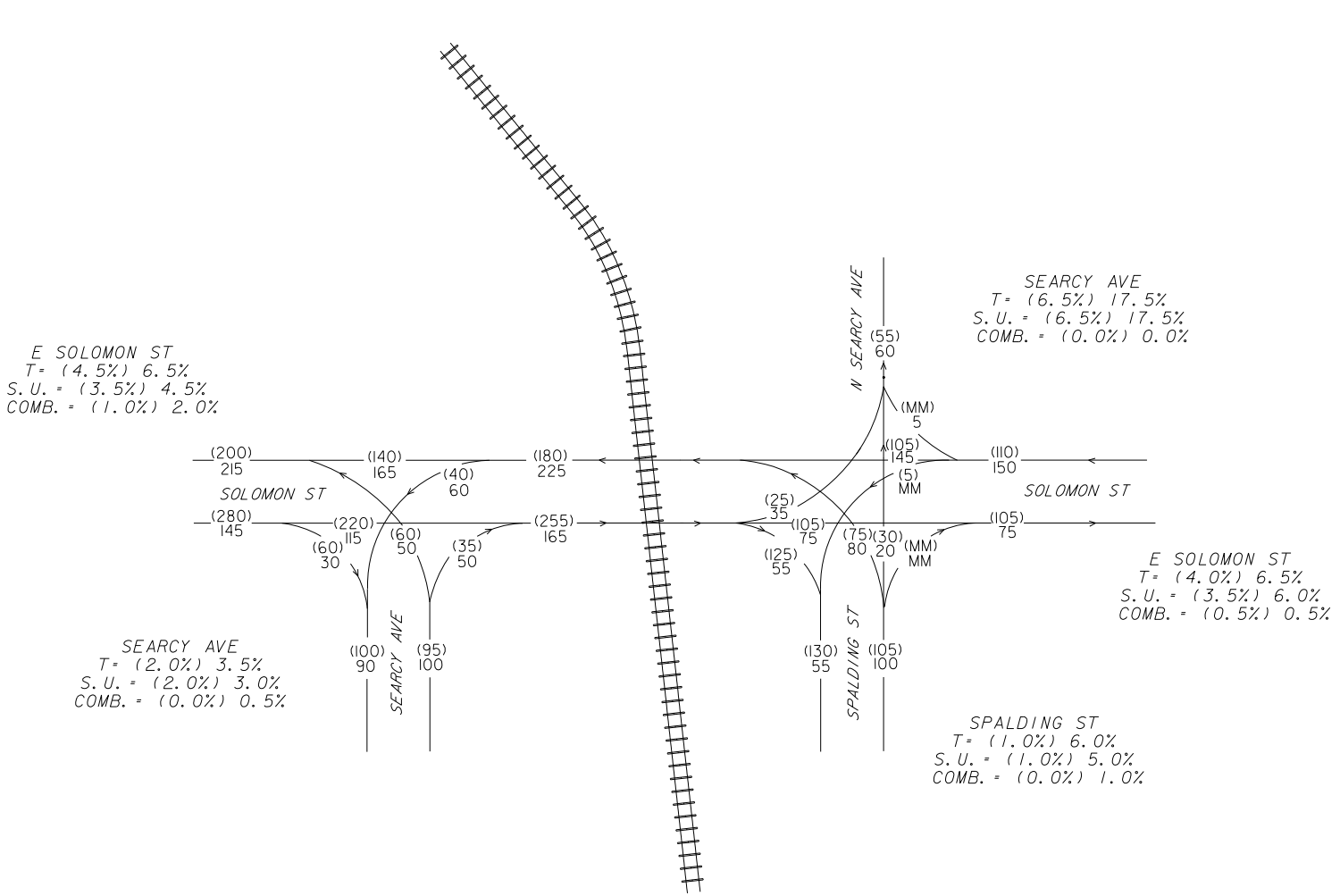
DRAWING No. 10-0018

COUNTY	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
SPALDING	GA	0015101		



2024 BUILD PM DHV = (000)
2024 BUILD AM DHV = 000
MINOR MOVEMENT = MM

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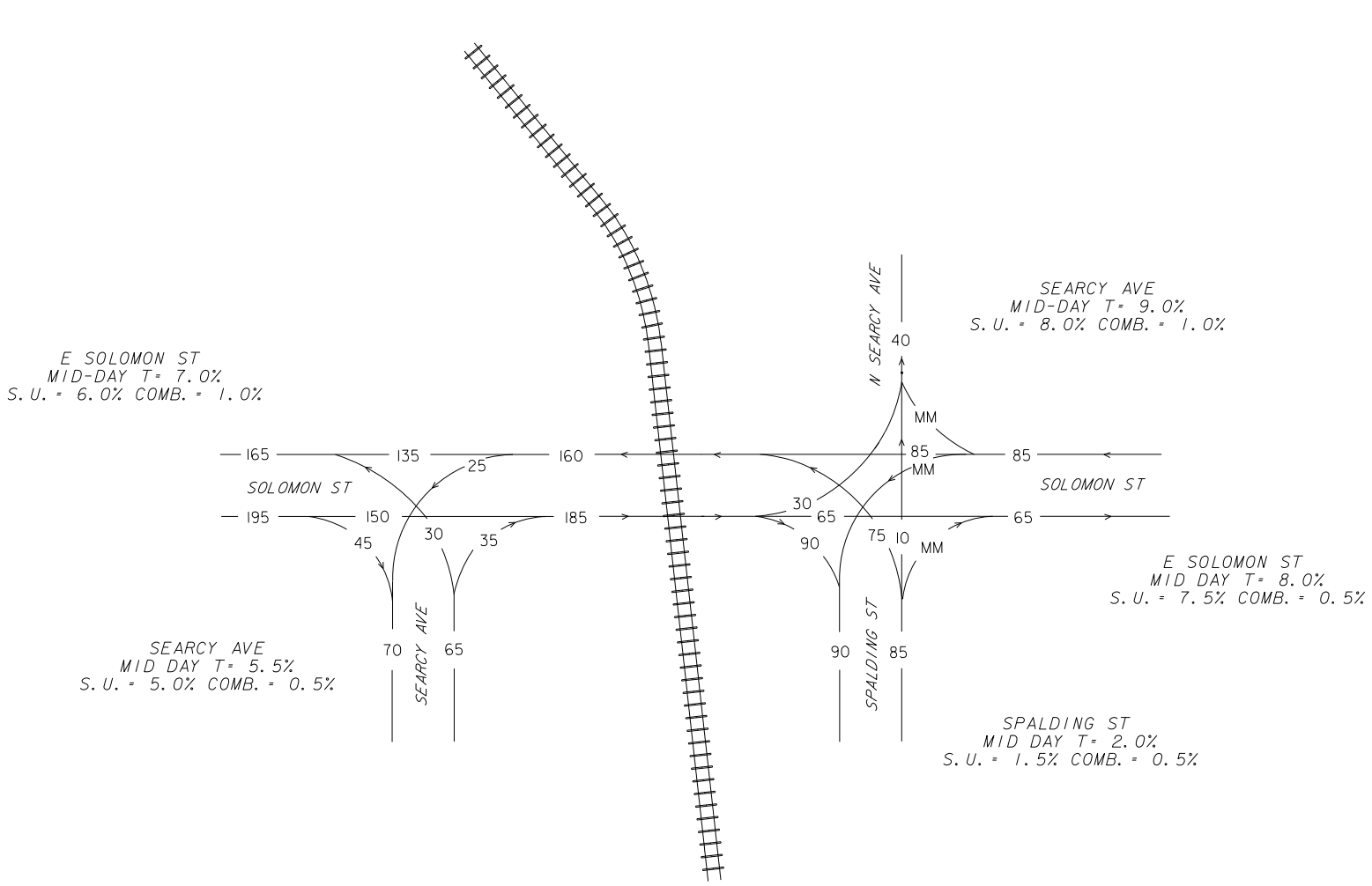
DRAWING No.
10-0019

COUNTY	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
SPALDING	GA	0015101		



2024 BUILD MID-DAY DHV = 000

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DEPARTMENT OF TRANSPORTATION
OFFICE:
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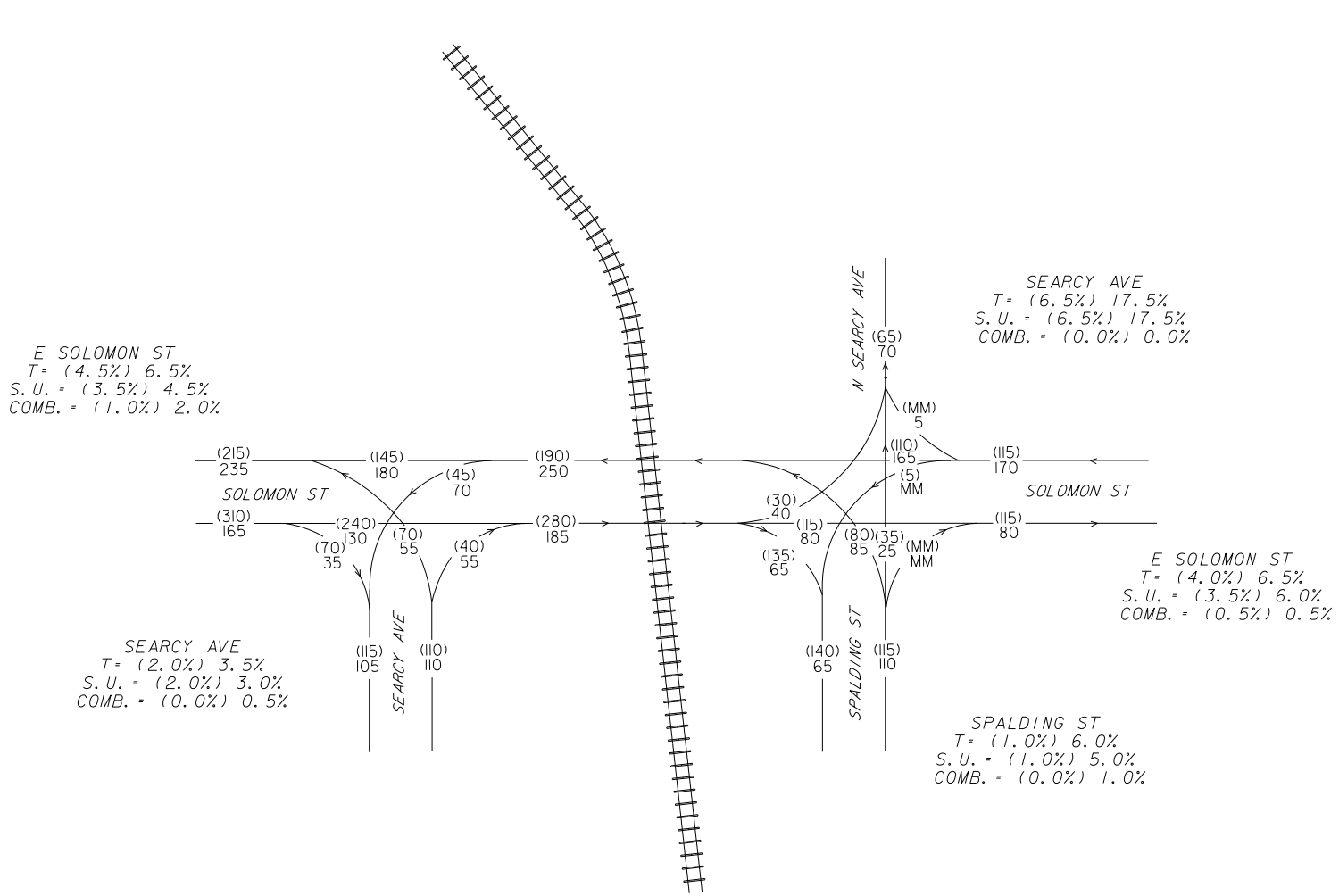
SOLOMON ST @
SEARCY AVE &
SPALDING STREET

DRAWING No.
10-0020

COUNTY	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
SPALDING	GA	0015101		



2044 BUILD PM DHV = (000)
2044 BUILD AM DHV = 000
MINOR MOVEMENT = MM

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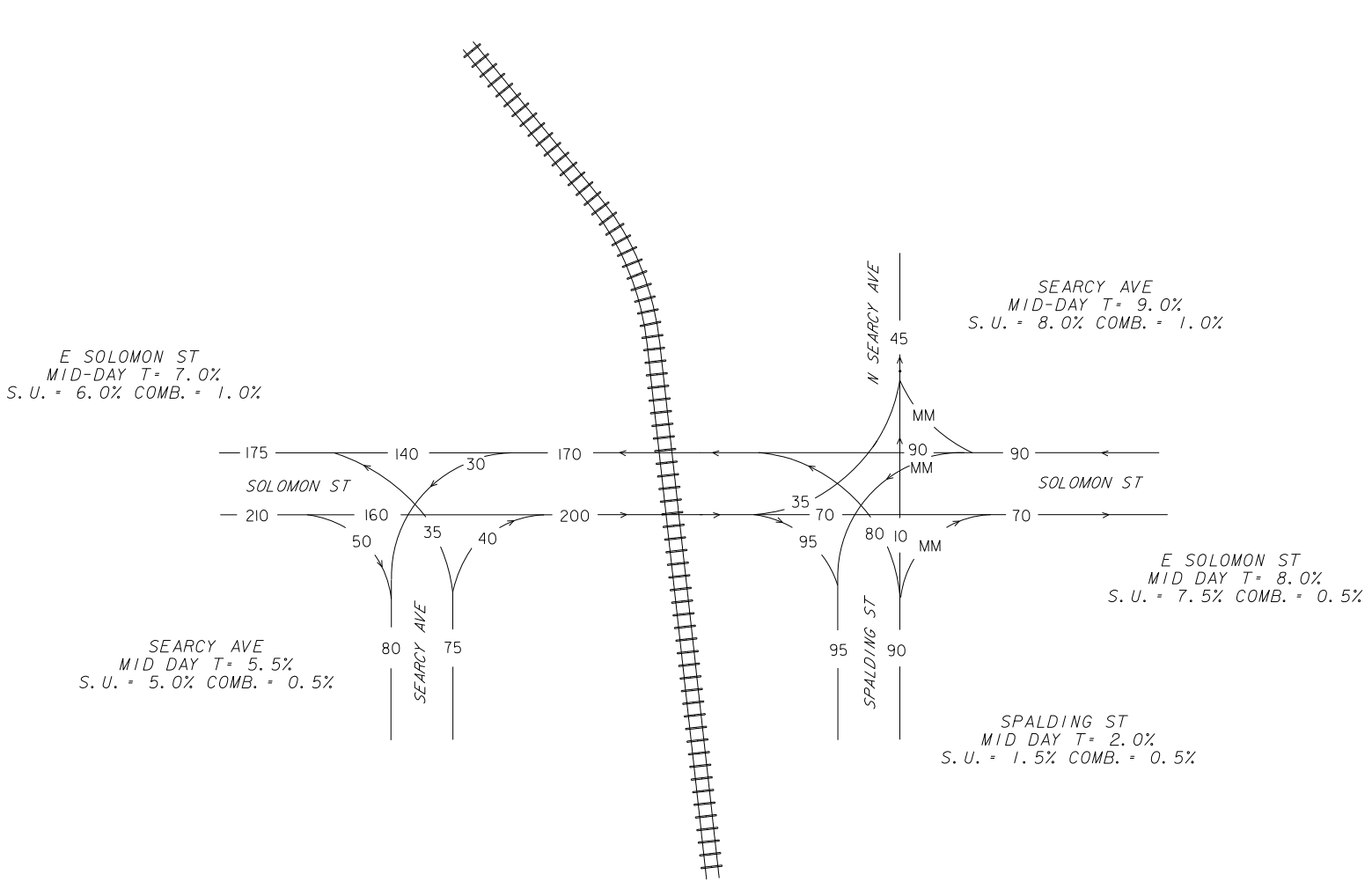
DRAWING No.
10-0021

COUNTY	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
SPALDING	GA	0015101		



2044 BUILD MID-DAY DHV = 000

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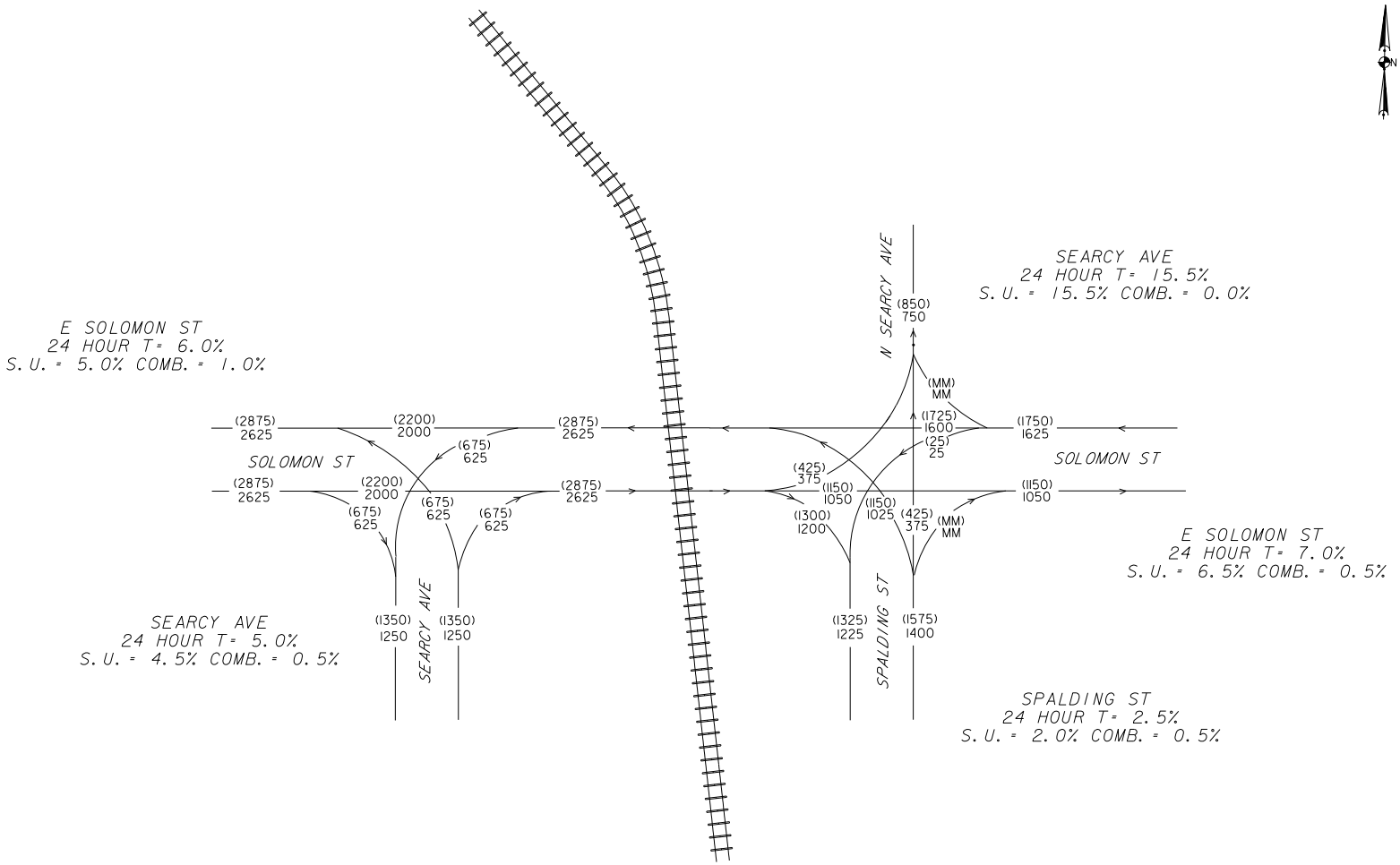
DRAWING No.
10-0022

COUNTY	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
SPALDING	GA	0015101		



2044 BUILD AADT = (000)
2024 BUILD AADT = 000

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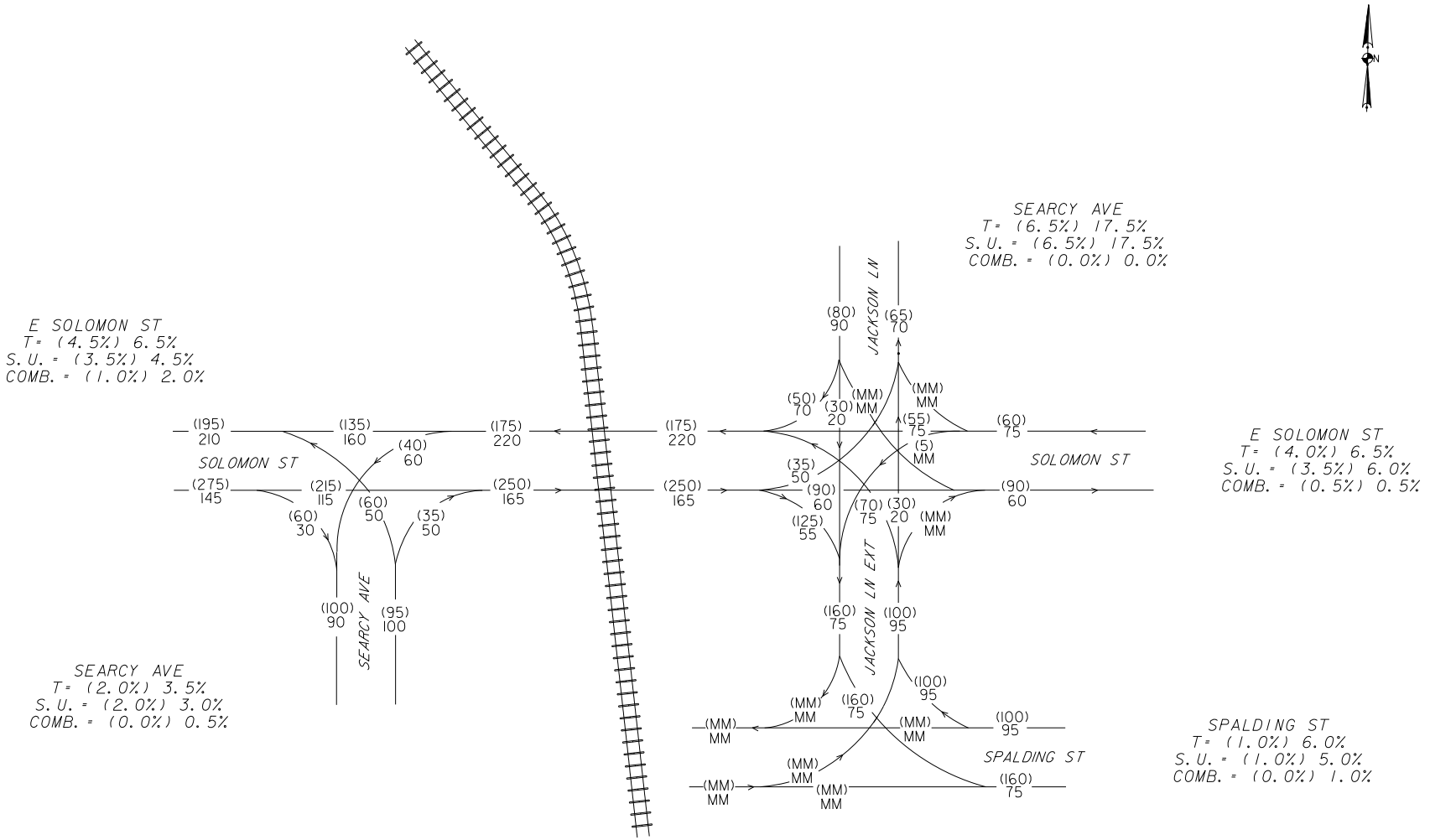
DRAWING No. 10-0023

PROJECT ALIGNMENT
Open & Design Traffic Diagrams

COUNTY	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
SPALDING	GA	0015101		



2022 BUILD PM DHV = (000)
2022 BUILD AM DHV = 000
MINOR MOVEMENT = MM

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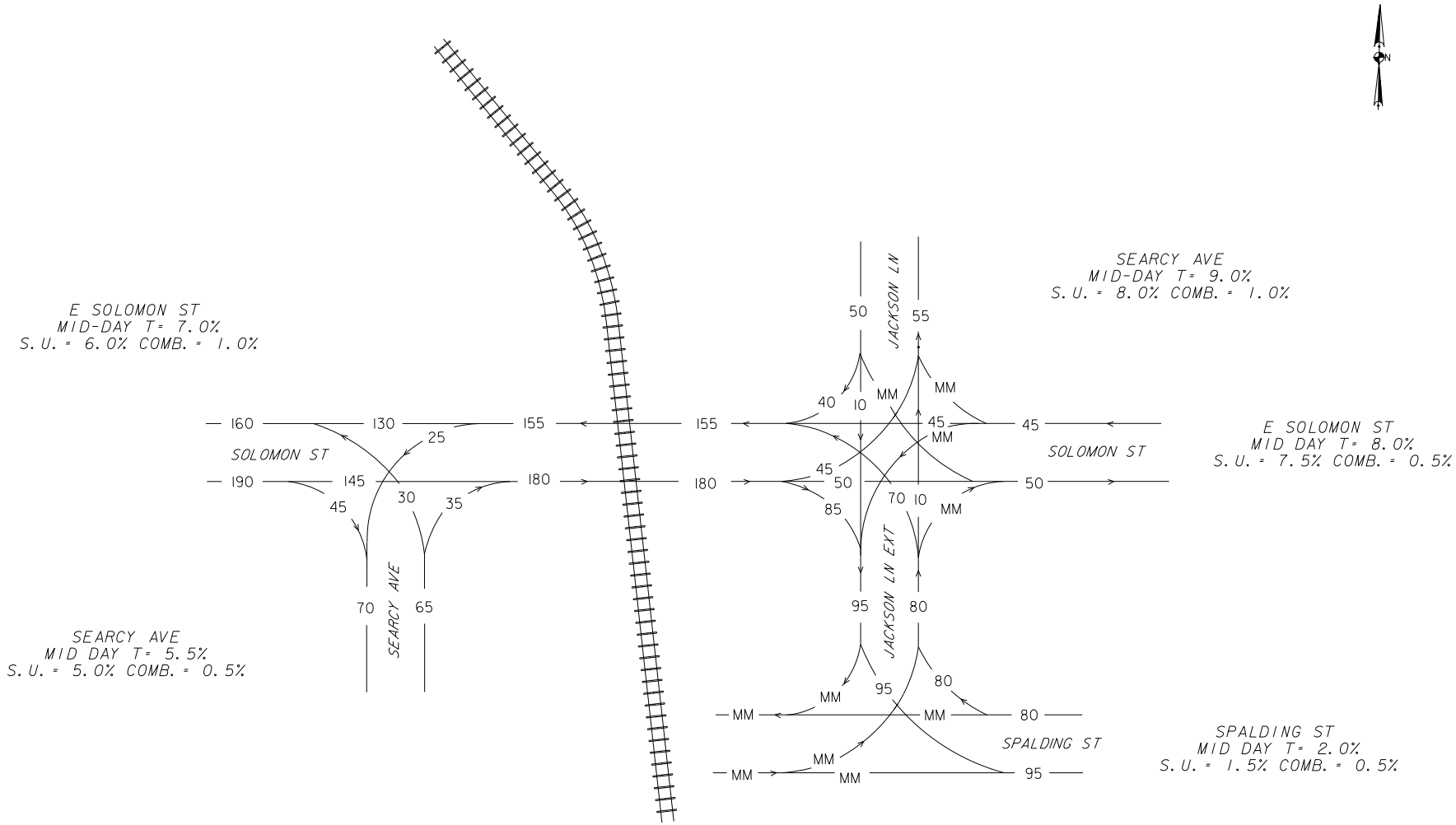
DRAWING No.
10-0024

COUNTY	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
SPALDING	GA	0015101		



2022 BUILD MID-DAY DHV = 000
MINOR MOVEMENT = MM

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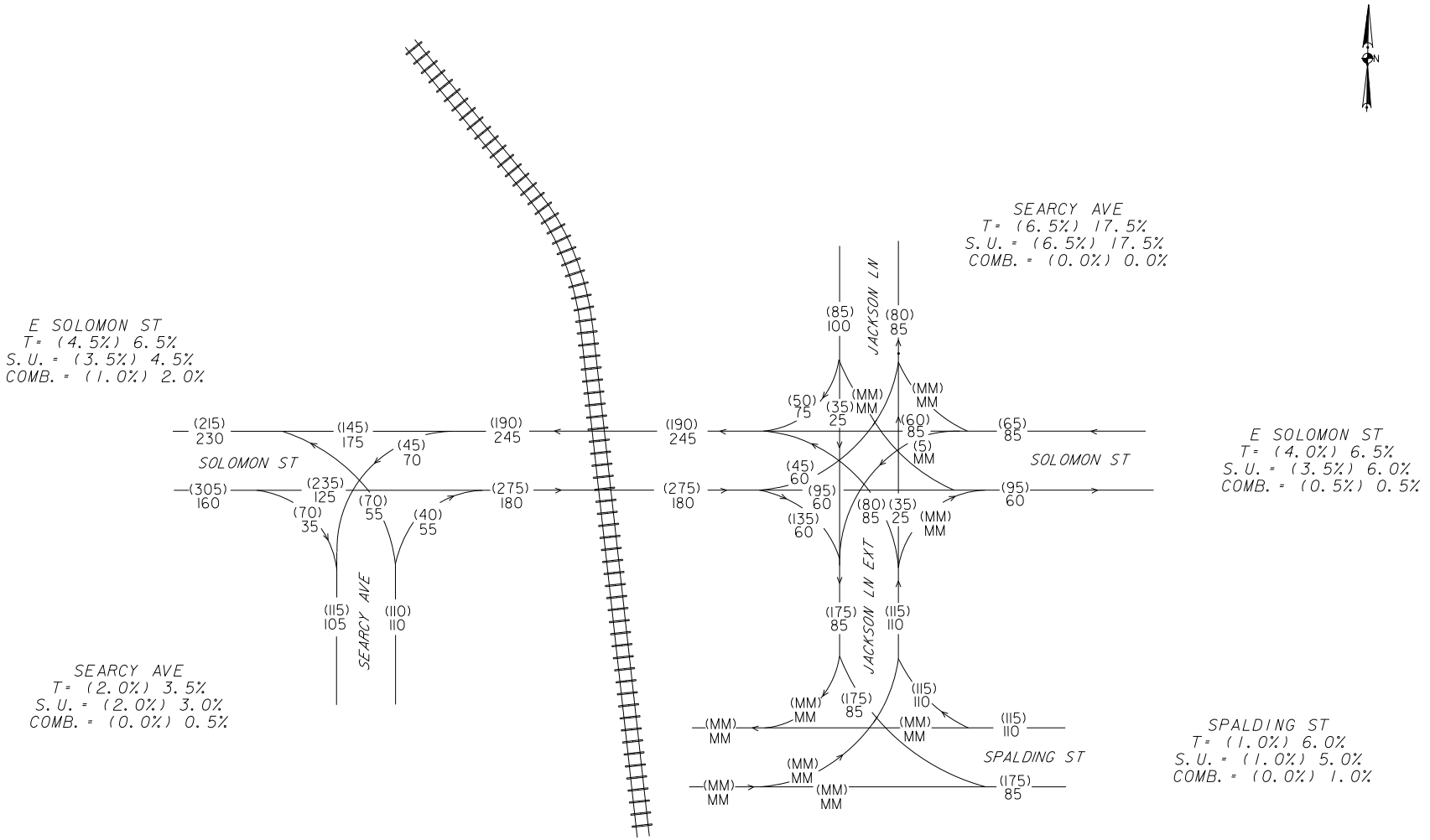
DRAWING No. 10-0025

COUNTY	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
SPALDING	GA	0015101		



2042 BUILD PM DHV = (000)
2042 BUILD AM DHV = 000
MINOR MOVEMENT = MM

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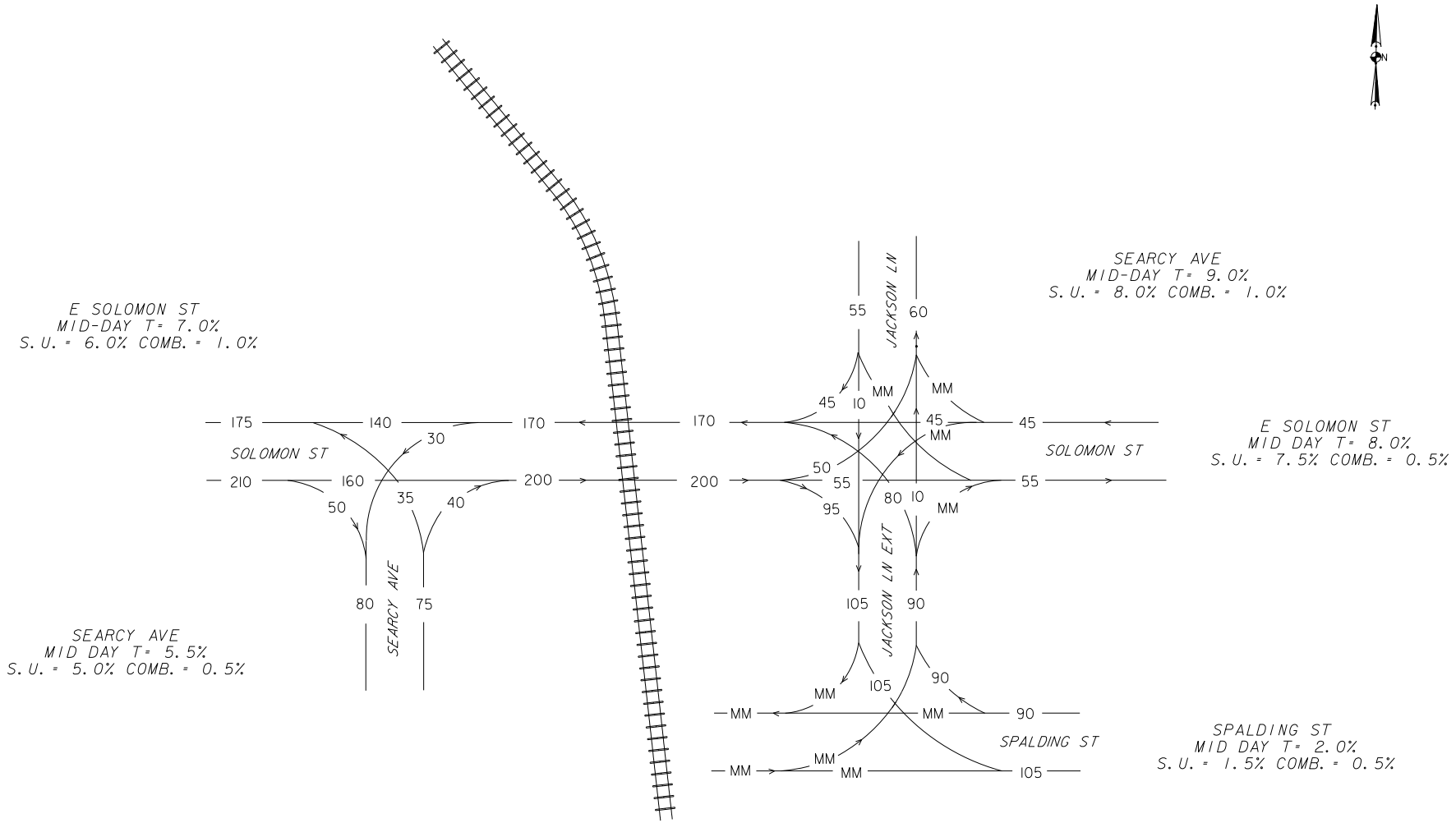
DRAWING No. 10-0026

COUNTY	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
SPALDING	GA	0015101		



2042 BUILD MID-DAY DHV = 000
MINOR MOVEMENT = MM

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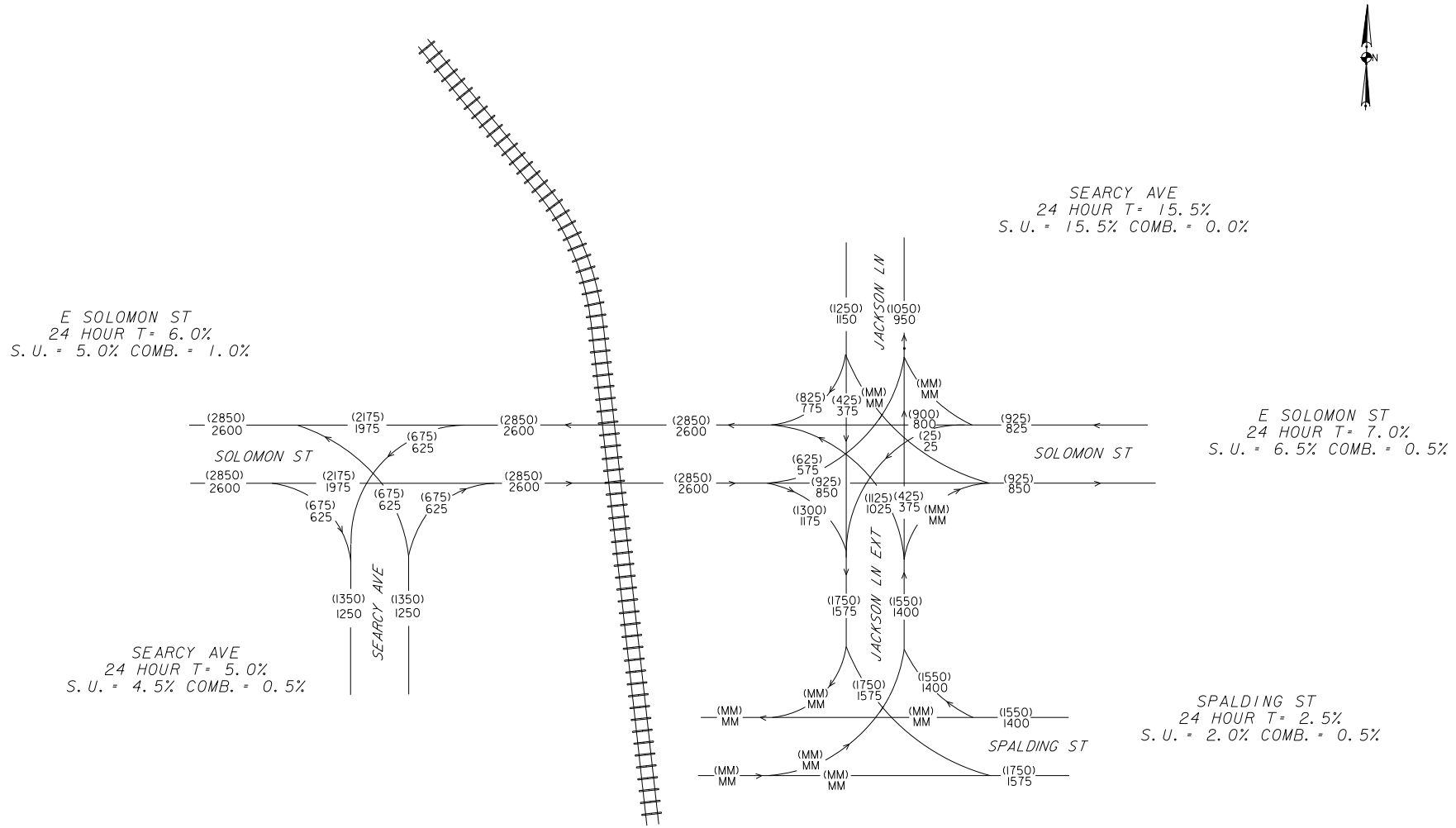
SPALDING STREET

DRAWING No.
10-0027

COUNTY	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
SPALDING	GA	0015101		



2042 BUILD AADT = (000)
2022 BUILD AADT = 000

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DRAWING No. 10-0028

Attachment 6
ICE Reports

GDOT INTERSECTION CONTROL EVALUATION (ICE) TOOL

ICE Version 2.14 | Revised 08/03/2018

GDOT PI # (or N/A): 0015101 Request By: GDOT

County: Spalding GDOT District: 3 - Thomaston

Major (State) Road: E Solomon St Speed Limit: 35 mph

Minor (Crossing) ST: Searcy Ave Speed Limit: 35 mph

Major ST Direction: East/West Area Type: Urban

Intersection Control: Conventional (All-Way Stop)

Prepared By: Moreland Altobelli Analyst: F. Ramirez

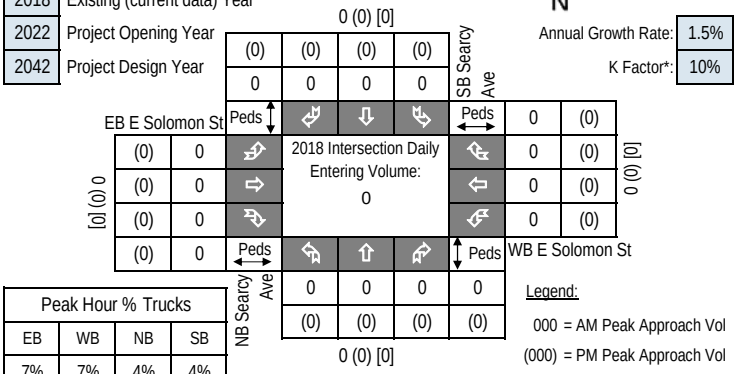
Date: 8/17/2018 Project ID:

Project Purpose: Intersection Improvement

2018	Existing (current data) Year
2022	Project Opening Year
2042	Project Design Year

Annual Growth Rate: 1.5%

K Factor*: 10%



Peak Hour % Trucks			
EB	WB	NB	SB
7%	7%	4%	4%

Legend:

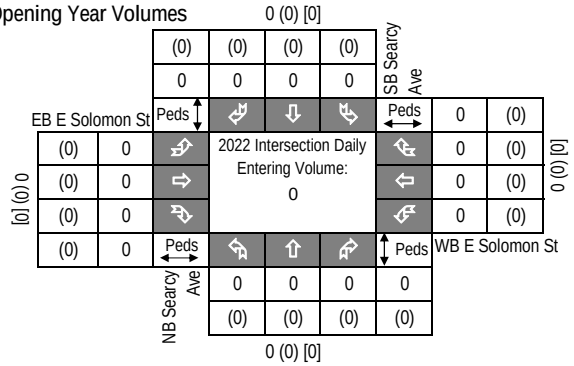
000 = AM Peak Approach Vol

(000) = PM Peak Approach Vol

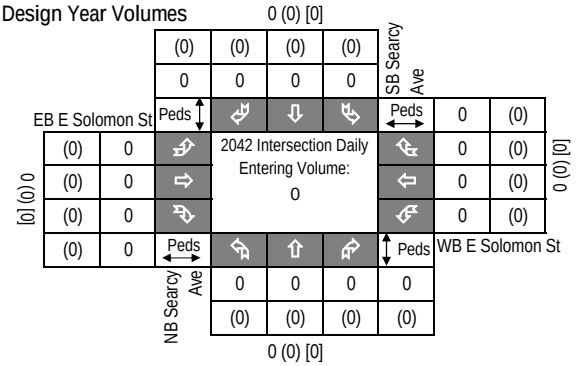
[000] = ADT Volume (Estimate)

#DIV/0!

2022 Opening Year Volumes



2042 Design Year Volumes



Introduction: In 2005, SAFETEA-LU established the Highway Safety Improvement Program (HSIP) and mandated that each state prepare a Strategic Highway Safety Plan (SHSP) to prioritize safety funding investments. Intersections quickly became a common component of most states' SHSP emphasis areas and HSIP project lists, including Georgia's SHSP. Intersection Control Evaluation (ICE) policies and procedures represent a traceable and transparent procedure to streamline the evaluation of intersection control alternatives, and further leverage safety advancements for intersection improvements beyond just the safety program. Approximately one-third of all traffic fatalities and roughly seventy five percent of all traffic crashes in Georgia occur at or adjacent to intersections. Accordingly, the Georgia SHSP includes an emphasis on enhancing intersection safety to advance the *Toward Zero Deaths* vision embraced by the Georgia Governor's Office of Highway Safety (GOHS). This ICE tool was developed to support the ICE policy, developed and adopted to help ensure that intersection investments across the entire Georgia highway system are selected, prioritized and implemented with defensible benefits for safety towards those ends.

Tool Goal: The goal of this ICE tool is to provide a simplified and consistent way of importing traffic, safety, cost, environmental impact and stakeholder posture data to assess and quantify intersection control improvement benefits. The tool supports the ICE policy and procedures to provide traceability, transparency, consistency and accountability when identifying and selecting an intersection control solution that both meets project purpose and reflects overall best value in terms of specific performance-based criteria.

Requirements: An ICE is required for any intersection improvement (e.g. new or modified intersection, widening/reconstruction or corridor project, or work accomplished through a driveway or encroachment permit that affects an intersection) where: 1) the intersection includes at least one roadway designated as a State Route (State Highway System) or as part of the National Highway System; or 2) the intersection will be designed or constructed using State or Federal funding. In certain circumstances where an ICE would otherwise be required, the requirement may be waived based on appropriate evidence presented with a written request. (See the "Waiver" tab to review criteria that may make a project waiver eligible and for instructions to submit a waiver request to the Department). An ICE is not required when the proposed work does not include any changes to the intersection design, involves only routine traffic signal timing and equipment maintenance, or for driveway permits where the driveway is not a new leg to an already existing intersection on either 1) a divided, multi-lane highway with a closed median and only right-in/right-out access or 2) an undivided roadway where the development is not required to construct left and/or right turn lanes (as per the Driveway Manual and District Traffic Engineer).

Two-Stage Process: A complete ICE process consists of two (2) distinct stages, and it is expected that the respective level of effort for completing both stages of ICE will correspond to the magnitude and complexity of the intersection. Prior to starting an ICE, the District Traffic Engineer and/or State Traffic Engineer should be consulted for advice on an appropriate level of effort. The Stage 1 and Stage 2 ICE forms are designed minimize required data inputs using drop-down menu choices and limiting text entry. All fields shaded grey include drop down menu choices and all fields shaded blue require data entry. All other cells in the worksheet are locked.

Stage 1: Screening Decision Record Stage 1 should be conducted early in the project development process and is intended to inform which alternatives are worthy of further evaluation in Stage 2. Stage 1 serves as a screening effort meant to *eliminate* non-competitive options and identify which alternatives merit further considerations based on their practical feasibility. Users should use good engineering judgement in responding to the seven policy questions by selecting "Yes" or "No" in the drop-down boxes. Alternatives should not be summarily eliminated without due consideration, and reasons for eliminating or advancing an alternative should be documented in the "Screening Decision Justification" column.

Stage 2: Alternative Selection Decision Record Stage 2 involves a more detailed and familiar evaluation of the alternatives identified in Stage 1 in order to support the selection of a preferred alternative that may be advanced to detailed design. Stage 2 data entry may require the use of external analysis tools to determine costs, operations and/or safety data that, combined with environmental and stakeholder posture data, form the basis of the ICE evaluation. A separate "CostEst" worksheet tab helps users develop pre-planning-level cost estimates for each Stage 2 alternative evaluated, and a separate Users Guide has been prepared to give guidance on Stage 1 and Stage 2 data entry. Once all data is entered, each alternative is scored and ranked, with the results reported at the bottom of the Stage 2 worksheet to inform on the best of the intersection controls evaluated for project recommendation.

Documentation: A complete ICE document consists of the combination of the outputs from either a completed and signed waiver form or both Stage 1 and Stage 2 worksheets (along with supporting costing and/or environmental documentation), to be included in the approved project Concept Report (or equivalent) or as a stand-alone document.

GDOT ICE STAGE 1: SCREENING DECISION RECORD

ICE Version 2.14 | Revised 08/03/2018

GDOT PI #	0015101
Project Location:	E Solomon St @ Searcy Ave
Prepared by:	Moreland Altobelli
Analyst:	F. Ramirez
Date:	8/17/2018

Answer "Yes" or "No" to each policy question for each control type to identify which alternatives should be evaluated in the Stage 2 Decision Record; enter justification in the rightmost column

Note: Up to 5 alternatives may be selected and evaluated; Use this ICE Stage 1 to screen 5 or fewer alternatives to evaluate in Stage 2

	Intersection Alternative (see "Intersections" tab for detailed description of intersection/interchange type)	1. Does alternative address the project need in a balanced manner and in scale with the project?	2. Does alternative improve safety performance in terms of reducing severe crashes?	3. Does alternative incorporate safety, convenience and accessibility for pedestrians and/or bicyclists?	4. Does alternative improve (or preserve) traffic operations (congestion, delay, reliability, etc.)?	5. Does alternative appear feasible given the site characteristics, constrains & location context?	6. Does alternative appear feasible with respect to other project factors?	7. Overall feasible alternative (select alternative for further evaluation in Stage 2)?	Screening Decision Justification:
Unsignalized Intersections	Conventional (Minor Stop)	Yes	No	No	Yes	Yes	Yes	Yes	Potential solution to evaluate
	Conventional (All-Way Stop)	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Potential Solution to evaluate
	Mini Roundabout	Yes	Yes	No	Yes	No	No	No	Alternative would be in conflict with nearby RRX
	Single Lane Roundabout	Yes	Yes	No	Yes	No	No	No	Alternative would be in conflict with nearby RRX
	Multilane Roundabout	No	Yes	No	Yes	No	No	No	E Solomon St & Searcy Ave are two-lane roadways
	RCUT (stop control)	No	Yes	Yes	Yes	No	No	No	A median is not being proposed as part of this project
	RIRO w/down stream U-Turn	No	Yes	Yes	Yes	No	No	No	A median is not being proposed as part of this project
	High-T (unsignalized)	No	No	No	Yes	No	No	No	No room for channelization due to the proxmity of the RRX
	Offset-T Intersections	No	Yes	Yes	No	No	No	No	Significant impact to ROW cost - Low traffic volumes
	Diamond Interch (Stop Control)	No	No	No	No	No	No	No	Alternative not applicable
	Diamond Interch (RAB Control)	No	No	No	No	No	No	No	Alternative not applicable
	No LT Lane Improvements No RT Lane Improvements	No	No	No	No	No	No	No	N/A
	Other unignalized (provide description):	No	No	No	No	No	No	No	Likely not meet signal warrants
Signalized Intersections	Traffic Signal	No	No	No	No	No	No	No	Likely not meet signal warrants
	Median U-Turn (Indirect Left)	No	No	No	No	No	No	No	Likely not meet signal warrants
	RCUT (signalized)	No	No	No	No	No	No	No	Likely not meet signal warrants
	Displaced Left Turn (CFI)	No	No	No	No	No	No	No	Likely not meet signal warrants
	Continuous Green-T	No	No	No	No	No	No	No	Likely not meet signal warrants
	Jughandle	No	No	No	No	No	No	No	Likely not meet signal warrants
	Quadrant Roadway	No	No	No	No	No	No	No	Likely not meet signal warrants
	Diamond Interch (Signal Control)	No	No	No	No	No	No	No	Likely not meet signal warrants
	Diverging Diamond	No	No	No	No	No	No	No	Likely not meet signal warrants
	Single Point Interchange	No	No	No	No	No	No	No	Likely not meet signal warrants
	No LT Lane Improvements No RT Lane Improvements	No	No	No	No	No	No	No	N/A
	Other Signalized (provide description):	No	No	No	No	No	No	No	N/A

☐ = Intersection type selected for more detailed analysis in Stage 2 Alternative Selection Decision Record

GDOT ICE STAGE 2: ALTERNATIVE SELECTION DECISION RECORD

ICE Version 2.14 | Revised 08/03/2018

GDOT PI # (or N/A): 0015101 | GDOT District: 3 - Thomaston | Date: 8/17/2018
County: Spalding | Area Type: Urban | Agency/Firm: Moreland Altobelli
Project Location: E Solomon St @ Searcy Ave | Analyst: F. Ramirez
Existing Intersection Control: Conventional (All-Way Stop) | Type of Analysis: Conventional Non-Safety Funded Project

Opening / Design Year Traffic Operations

Intersection meets signal/AWS warrants?	Meets AWS only	
Traffic Analysis Measure of Effectiveness	Network Delay	
Traffic Analysis Software Used	Other (explain below)	
Analysis Time Period	AM Peak Hr	PM Peak Hr
2022 Open Yr No-Build Peak Hr Network Delay	7.3 sec	8.0 sec
2042 Design Yr No-Build Peak Hr Network Delay	7.8 sec	8.0 sec

Complete Streets Warrants Met?
- ☐ PEDESTRIANS
- ☐ BICYCLES
- ☐ TRANSIT

Crash Data: Enter 5 most recent years of intersection crash data	Crash Severity: PDO	Injury Crash*	Fatal Crash*	Crash Type
Angle	3	0	0	38%
Head-On	0	0	0	0%
Rear End	3	0	0	38%
Sideswipe - same	1	0	0	13%
Sideswipe - opposite	0	0	0	0%
Not Collision w/Motor Veh	1	0	0	13%
TOTALS:	8	0	0	8

* Number of crashes resulting in injuries / fatalities, not number of persons

Alternatives Analysis:	Alternative 1	Alternative 2	Alternative 3	Alternative 4	Alternative 5
Proposed Control Type/Improvement:	Conventional (Minor Stop)	Conventional (All-Way Stop)	N/A	N/A	N/A
Project Cost: (From CostEst Worksheet)	*Additional description here*	*Additional description here*			
Construction Cost	$0	$140,000			
ROW Cost	$1,015,000	$1,015,000			
Environmental Cost	$0	$50,000			
Reimbursable Utility Cost	$2,833,633	$2,833,633			
Design & Contingency Cost	$0	$28,000			
Cost Adjustment (justification req'd)	0%	0%			
Total Cost	$3,848,633	$4,066,633			
Traffic Operations:	*User Cost Override*	*User Cost Override*			
Traffic Analysis Software Used	HCS 2010	Other (explain below)			
Analysis Period	AM Peak Hr / PM Peak Hr	AM Peak Hr / PM Peak Hr			
2042 Design Yr Build Network Delay	11.7 sec / 12.8 sec	4.3 sec / 5.9 sec			
Safety Analysis:					
Predefined CRF: PDO	0%	0%			
Predefined CRF: Fatal/Inj	0%	0%			
Predefined CRF Source:	N/A	N/A			
User Defined CRF: PDO					
User Defined CRF: Fatal/Inj					
User Defined CRF Source (write in if applicable):					
Environmental Impacts:[1]					
Historic District/Property	Minimal	Minimal			
Archaeology Resources	None	None			
Graveyard	None	None			
Stream	None	None			
Underground Tank/Hazmat	None	None			
Park Land	None	None			
EJ Community	None	None			
Wooded Area	None	None			
Wetland	None	None			
Stakeholder Posture:	*Note: If environmental impact is significant (**RED**), provide justification impact won't jeopardize project delivery using "Env" worksheet*				
	[1] *Environmental impacts are only preliminary estimates; detailed environmental impact documentation will be included with project concept report*				
Local Community Support	Neutral	Neutral			
GDOT Support	Neutral	Neutral			
Final ICE Stage 2 Score:	2.7	5.0			
Rank of Control Type Alternatives:	2	1			

Note: Stage 2 score is not given (shown as "-") if signal or AWS is selected as control type but respective warrants are not met

Provide additional comments and/or explain any unique analysis inputs, or results (as necessary): The No-Build and All-Way Stop conditions were analyzed using SimTraffic. The westbound approach on E Solomon St was modeled as a continuous movement under the All-Way Stop alternative in order to prevent train-vehicle collissions (See concept layout for the preferred alternative). See cost estimate of the preferred alternative.

GDOT ICE TOOL: COST ESTIMATING AID

ICE Version 2.14 | Revised 08/03/2018

Project Information

Location: E Solomon St @ Searcy Ave
County: Spalding
Date: 8/17/2018
GDOT PI # (or N/A): 0015101
Area Type: Urban
Agency/Firm: Moreland Altobelli
Existing Intersection Control: Conventional (All-Way Stop)
GDOT District: 3 - Thomaston
Analyst: F. Ramirez
Type of Analysis: Conventional Non-Safety Funded Project
Major Street Direction: East/West

Table 1: Existing Conditions

	EB E Solomon St			WB E Solomon St			NB Searcy Ave			SB Searcy Ave		
Movement	Left Turn	Thru	Right Turn	Left Turn	Thru	Right Turn	Left Turn	Thru	Right Turn	Left Turn	Thru	Right Turn
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0
Lane Widths*	0'	12'	0'	0'	12'	0'	0'	12'	0'	0'	12'	0'
Bay Length**	0'		0'	0'		0'	0'		0'	0'		0'
Median Width												
Right-of-Way	40'						40'					

Table 2: Proposed Conditions

	Conventional (Minor Stop)	Conventional (All-Way Stop)	N/A	N/A	N/A
Proposed Pavement Type	F.D. Asphalt	F.D. Asphalt	F.D. Asphalt	F.D. Asphalt	None
Reimbursable Utility:	Moderate	Moderate	Moderate	Moderate	Moderate
# of Driveway(s) Impacted	0	0	0	0	0
Modify/Replace Traffic Signal	0	0	0	0	0
Lighting Poles (ea)	0	0	0	0	0
Flashing Beacons (ea)	0	0	0	0	0
RFB/PHB Ped Crossings (ea)	0	0	0	0	0
New/Replace Sidewalks (LF)	0'	0'	0'	0'	0'
New/Replace Cross Drains (LF)	0'	0'	0'	0'	0'
New/Replace Guardrail (LF)	0'	0'	0'	0'	0'
New Retaining Wall (LF)	0'	0'	0'	0'	0'
Bridge:New/Widen/Replace (sqft)	0	0	0	0	0
Add'l ROW/Easements/Demolition	$0	$0	$0	$0	$0

Site Context

Topography:	Rolling
Traffic Mgmt Plan:	Maintain Traffic
Project Size:	Single Intersection

Intersections

Signal Poles	Mast Arm
Design Vehicle	WB-67
Existing Interchange?	No

Roundabouts

Inscribed DIA - Mini	80
Inscribed DIA - Single	140
Inscribed DIA - Multi	200
Circulating Lane Width	18

Cost Multipliers

Grading Complete:	20%
Reimbursable Utility:	5%
Traffic Control:	20%
Project Size:	0%
Prelim Engineering:	15%
Project Contingency:	20%

ROW Costs

Prevalent ROW Type:	Mixed (Average)
ROW Cost/Acre:	$128,625
ROW Multiplier:	1.6

Table 3: Control Type Cost Breakdown

	Per Ln Mi		Conventional (Minor Stop)		Stop)		N/A		N/A		N/A	
Pay Item	Unit Cost	Unit Cost	Quantity	Cost	Quantity	Cost	Quantity	Cost	Quantity	Cost	Quantity	Cost
New Construction (Base & Pave)	$500K/LM	$9.47/sqft	0	$0	13,906	$131,686						
Roadway Mill and Overlay	$64K/LM	$1.21/sqft	0	$0	0	$0						
Urban C&G/Drainage - both sides	441-6720	$19.08/LF	0	$0	0	$0						
Rural Typ Drainage - both sides	$150K/LM	$2.84/LF	0	$0	0	$0						
Concrete Island (sqyd)	n/a	$51.58/syd	0	$0	0	$0						
Median Landscaping	$100K/LM	$1.89/LF	0	$0	0	$0						
Typical Driveways Impacted (ea)	n/a	$7,500 ea	0	$0	0	$0						
Typical E&S Control Temp/Perm	$150K/LM	$34.09/LF	0	$0	0	$0						
Roundabout Truck Apron (sqft)	n/a	$10.25/sqft	0	$0	0	$0						
Signing & Marking	$0	$22.73/LF	0	$0	400	$9,092						
Flashing Beacon (ea)	n/a	$20,000 ea	0	$0	0	$0						
New Traffic Signal (Mast Arms)	674-1000	$182,575ea	0	$0	0	$0						
Lighting (per pole)	n/a	$5,607 ea	0	$0	0	$0						
Signalized Ped Crossings (ea)	n/a	$19,637 ea	0	$0	0	$0						
6' Sidewalk (LF)	n/a	$49.23/LF	0	$0	0	$0						
New/replace cross drains (LF)	n/a	$41.31/LF	0	$0	0	$0						
Typical Guardrail (LF)	n/a	$65.56/LF	0	$0	0	$0						
Retaining Wall (LF)	n/a	$808.52/LF	0	$0	0	$0						
Bridge widen/replace (SF)	n/a	$210/sqft	0	$0	0	$0						
Env Costs (from Stage 2 impacts)	n/a	n/a	0	$0	0	$50,000						
Grading Complete - 20%	n/a	n/a		$0		$0						
Traffic Control - 20%	n/a	n/a		$0		$0						
Reimbrusable Utility	n/a	n/a		$0		$7,039						
Preliminary Engineering - 15%	n/a	n/a		$0		$28,617						
Contigency - 20%	n/a	n/a		$0		$0						
ROW Cost/Acre: Mixed (Average)	n/a	$128,625ac		$0		$0						
Add'l ROW / Displacement / Demo	n/a	n/a		$0		$0						
ROW Multiplier - 1.6	n/a	n/a		$0		$0						
Project Scale Reduction - 0.0%	n/a	n/a		$0		$0						
Grand Total Costs				$0		$226,000						

Table 4: Assumption Adjustments/Quantity Overrides

Alternative Evaluated	Assumptions:	Pavement	Calculated ROW (ac)	User Override*	Calculated Pavement	User Override*	Major ST Const Limits	User Override*	Minor ST Const Limits	User Override*
Conventional (Minor Stop)	N/A	F.D. Asphalt	0.00	0.0	0	13,906.0	70	200.0	70	200.0
Conventional (All-Way Stop)	--select one--	F.D. Asphalt	0.00	0.0	0	13,906.0	70	200.0	70	200.0
N/A	#N/A	F.D. Asphalt	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
N/A	#N/A	F.D. Asphalt	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
N/A	#N/A	None	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A

1: Searcy Ave. & E. Solomon St./E. Solomon St. Performance by movement

Movement	EBT	EBR	WBL	WBT	NBL	NBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.2	0.1	0.0	0.0	0.1	0.2	0.1
Total Delay (hr)	0.2	0.0	0.0	0.1	0.1	0.1	0.5
Total Del/Veh (s)	6.7	3.4	1.1	1.8	5.5	3.3	3.5

2: Spalding St./N. Searcy Ave. & E. Solomon St. Performance by movement

Movement	EBL	EBT	EBR	WBT	WBR	NBL	NBT	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0	0.2	0.1	0.1	0.2	0.1
Total Delay (hr)	0.0	0.0	0.0	0.3	0.0	0.1	0.0	0.5
Total Del/Veh (s)	0.9	1.4	0.8	7.2	2.6	5.0	7.0	4.4

Total Network Performance

Denied Delay (hr)	0.0
Denied Del/Veh (s)	0.2
Total Delay (hr)	1.0
Total Del/Veh (s)	7.3

1: Searcy Ave. & E. Solomon St./E. Solomon St. Performance by movement

Movement	EBT	EBR	WBL	WBT	NBL	NBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.4	0.4	0.0	0.0	0.1	0.2	0.2
Total Delay (hr)	0.4	0.1	0.0	0.1	0.1	0.0	0.7
Total Del/Veh (s)	8.0	4.6	1.0	1.6	6.0	3.4	4.7

2: Spalding St./N. Searcy Ave. & E. Solomon St. Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	NBL	NBT	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0	0.1	0.2	0.1	0.2	0.1
Total Delay (hr)	0.0	0.1	0.0	0.0	0.2	0.1	0.1	0.5
Total Del/Veh (s)	1.3	2.0	0.9	6.6	6.8	5.6	7.1	4.0

Total Network Performance

Denied Delay (hr)	0.0
Denied Del/Veh (s)	0.2
Total Delay (hr)	1.3
Total Del/Veh (s)	8.0

1: Searcy Ave. & E. Solomon St./E. Solomon St. Performance by lane

Lane	EB	WB	NB	All
Movements Served	TR	LT	LR	
Denied Del/Veh (s)				0.1
Total Del/Veh (s)	6.3	1.6	4.9	3.8

2: Spalding St./N. Searcy Ave. & E. Solomon St. Performance by lane

Lane	EB	WB	NB	All
Movements Served	LTR	LTR	LTR	
Denied Del/Veh (s)				0.1
Total Del/Veh (s)	1.3	7.2	6.4	4.7

Total Network Performance

Denied Del/Veh (s)	0.2
Total Del/Veh (s)	7.8

1: Searcy Ave. & E. Solomon St./E. Solomon St. Performance by lane

Lane	EB	WB	NB	All
Movements Served	TR	LT	LR	
Denied Del/Veh (s)				0.2
Total Del/Veh (s)	7.3	1.4	4.8	5.0

2: Spalding St./N. Searcy Ave. & E. Solomon St. Performance by lane

Lane	EB	WB	NB	All
Movements Served	LTR	LTR	LTR	
Denied Del/Veh (s)				0.1
Total Del/Veh (s)	1.4	6.7	6.2	3.6

Total Network Performance

Denied Del/Veh (s)	0.2
Total Del/Veh (s)	8.0

HCS+: Unsignalized Intersections Release 5.6

TWO-WAY STOP CONTROL SUMMARY

Analyst:	F.Ramirez
Agency/Co.:	Moreland Altobelli
Date Performed:	8/17/2018
Analysis Time Period:	2042 AM Peak
Intersection:	Spalding St at Jackson Ln Ext
Jurisdiction:	Spalding County
Units: U. S. Customary	
Analysis Year:	2018
Project ID: 0015101	
East/West Street:	E Solomon St
North/South Street:	Searcy Ave
Intersection Orientation: EW	Study period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street: Approach	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume		125	35	70	175	
Peak-Hour Factor, PHF		0.92	0.92	0.92	0.92	
Hourly Flow Rate, HFR		135	38	76	190	
Percent Heavy Vehicles		--	--	7	--	--
Median Type/Storage	Undivided /					
RT Channelized?			Yes			
Lanes		1	1	1	1	
Configuration		T	R	L	T	
Upstream Signal?		No			No	

Minor Street: Approach	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume	55		55			
Peak Hour Factor, PHF	0.92		0.92			
Hourly Flow Rate, HFR	59		59			
Percent Heavy Vehicles	4		4			
Percent Grade (%)		0			0	
Flared Approach: Exists?/Storage			No /			/
Lanes	0		0			
Configuration		LR				

Delay, Queue Length, and Level of Service

Approach	EB	WB	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Config		L		LR				
v (vph)		76		118				
C(m) (vph)		1419		657				
v/c		0.05		0.18				
95% queue length		0.17		0.65				
Control Delay		7.7		11.7				
LOS		A		B				
Approach Delay				11.7				
Approach LOS				B				

HCS+: Unsignalized Intersections Release 5.6

Phone: Fax:
E-Mail:

TWO-WAY STOP CONTROL(TWSC) ANALYSIS

Analyst: F.Ramirez
Agency/Co.: Moreland Altobelli
Date Performed: 8/17/2018
Analysis Time Period: 2042 AM Peak
Intersection: Spalding St at Jackson Ln Ext
Jurisdiction: Spalding County
Units: U. S. Customary
Analysis Year: 2018
Project ID: 0015101
East/West Street: E Solomon St
North/South Street: Searcy Ave
Intersection Orientation: EW Study period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street Movements	1	2	3	4	5	6
	L	T	R	L	T	R
Volume		125	35	70	175	
Peak-Hour Factor, PHF		0.92	0.92	0.92	0.92	
Peak-15 Minute Volume		34	10	19	48	
Hourly Flow Rate, HFR		135	38	76	190	
Percent Heavy Vehicles		--	--	7	--	--
Median Type/Storage	Undivided		/			
RT Channelized?			Yes			
Lanes		1	1	1	1	
Configuration		T	R	L	T	
Upstream Signal?		No			No	

Minor Street Movements	7	8	9	10	11	12
	L	T	R	L	T	R
Volume	55		55			
Peak Hour Factor, PHF	0.92		0.92			
Peak-15 Minute Volume	15		15			
Hourly Flow Rate, HFR	59		59			
Percent Heavy Vehicles	4		4			
Percent Grade (%)		0			0	
Flared Approach: Exists?/Storage			No	/		/
RT Channelized?						
Lanes	0		0			
Configuration		LR				

Pedestrian Volumes and Adjustments

Movements	13	14	15	16
Flow (ped/hr)	0	0	0	0

Lane Width (ft)	12.0	12.0	12.0	12.0
Walking Speed (ft/sec)	4.0	4.0	4.0	4.0
Percent Blockage	0	0	0	0

Upstream Signal Data

	Prog. Flow vph	Sat Flow vph	Arrival Type	Green Time sec	Cycle Length sec	Prog. Speed mph	Distance to Signal feet
S2 Left-Turn							
Through							
S5 Left-Turn							
Through							

Worksheet 3-Data for Computing Effect of Delay to Major Street Vehicles

	Movement 2	Movement 5
Shared ln volume, major th vehicles:		
Shared ln volume, major rt vehicles:		
Sat flow rate, major th vehicles:		
Sat flow rate, major rt vehicles:		
Number of major street through lanes:		

Worksheet 4-Critical Gap and Follow-up Time Calculation

Critical Gap Calculation

Movement	1 L	4 L	7 L	8 T	9 R	10 L	11 T	12 R
t(c,base)		4.1	7.1		6.2			
t(c,hv)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
P(hv)		7	4		4			
t(c,g)			0.20	0.20	0.10	0.20	0.20	0.10
Percent Grade			0.00	0.00	0.00	0.00	0.00	0.00
t(3,lt)		0.00	0.70		0.00			
t(c,T): 1-stage	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2-stage	0.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
t(c) 1-stage		4.2	6.4		6.2			
2-stage								

Follow-Up Time Calculations

Movement	1 L	4 L	7 L	8 T	9 R	10 L	11 T	12 R
t(f,base)		2.20	3.50		3.30			
t(f,HV)	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
P(HV)		7	4		4			
t(f)		2.3	3.5		3.3			

Worksheet 5-Effect of Upstream Signals

Computation 1-Queue Clearance Time at Upstream Signal

	Movement 2		Movement 5	
	V(t)	V(l,prot)	V(t)	V(l,prot)
V prog				

Total Saturation Flow Rate, s (vph)	
Arrival Type	
Effective Green, g (sec)	
Cycle Length, C (sec)	
Rp (from Exhibit 16-11)	
Proportion vehicles arriving on green P	
g(q1)	
g(q2)	
g(q)	

Computation 2-Proportion of TWSC Intersection Time blocked	Movement 2		Movement 5	
	V(t)	V(l,prot)	V(t)	V(l,prot)
alpha				
beta				
Travel time, t(a) (sec)				
Smoothing Factor, F				
Proportion of conflicting flow, f				
Max platooned flow, V(c,max)				
Min platooned flow, V(c,min)				
Duration of blocked period, t(p)				
Proportion time blocked, p	0.000		0.000	

Computation 3-Platoon Event Periods	Result
p(2)	0.000
p(5)	0.000
p(dom)	
p(subo)	
Constrained or unconstrained?	

Proportion unblocked for minor movements, p(x)	(1) Single-stage Process	(2) Two-Stage Process Stage I	(3) Stage II
p(1)			
p(4)			
p(7)			
p(8)			
p(9)			
p(10)			
p(11)			
p(12)			

Computation 4 and 5 Single-Stage Process								
Movement	1 L	4 L	7 L	8 T	9 R	10 L	11 T	12 R
V c,x		135	477		135			
s								
Px								
V c,u,x								
C r,x								
C plat,x								

Two-Stage Process				
	7	8	10	11

	Stage1	Stage2	Stage1	Stage2	Stage1	Stage2	Stage1	Stage2
V(c,x)								
s		1500						
P(x)								
V(c,u,x)								
C(r,x)								
C(plat,x)								

Worksheet 6-Impedance and Capacity Equations

Step 1: RT from Minor St.	9	12
Conflicting Flows	135	
Potential Capacity	909	
Pedestrian Impedance Factor	1.00	1.00
Movement Capacity	909	
Probability of Queue free St.	0.94	1.00
Step 2: LT from Major St.	4	1
Conflicting Flows	135	
Potential Capacity	1419	
Pedestrian Impedance Factor	1.00	1.00
Movement Capacity	1419	
Probability of Queue free St.	0.95	1.00
Maj L-Shared Prob Q free St.		
Step 3: TH from Minor St.	8	11
Conflicting Flows		
Potential Capacity		
Pedestrian Impedance Factor	1.00	1.00
Cap. Adj. factor due to Impeding mvmnt	0.95	0.95
Movement Capacity		
Probability of Queue free St.	1.00	1.00
Step 4: LT from Minor St.	7	10
Conflicting Flows	477	
Potential Capacity	543	
Pedestrian Impedance Factor	1.00	1.00
Maj. L, Min T Impedance factor		0.95
Maj. L, Min T Adj. Imp Factor.		0.96
Cap. Adj. factor due to Impeding mvmnt	0.95	0.90
Movement Capacity	514	

Worksheet 7-Computation of the Effect of Two-stage Gap Acceptance

Step 3: TH from Minor St.	8	11
Part 1 - First Stage		
Conflicting Flows		
Potential Capacity		
Pedestrian Impedance Factor		
Cap. Adj. factor due to Impeding mvmnt		
Movement Capacity		
Probability of Queue free St.		

Part 2 - Second Stage			
Conflicting Flows			
Potential Capacity			
Pedestrian Impedance Factor			
Cap. Adj. factor due to Impeding mvmnt			
Movement Capacity			
Part 3 - Single Stage			
Conflicting Flows			
Potential Capacity			
Pedestrian Impedance Factor	1.00	1.00	
Cap. Adj. factor due to Impeding mvmnt	0.95	0.95	
Movement Capacity			
Result for 2 stage process:			
a			
y			
C t			
Probability of Queue free St.	1.00	1.00	
Step 4: LT from Minor St.	7	10	
Part 1 - First Stage			
Conflicting Flows			
Potential Capacity			
Pedestrian Impedance Factor			
Cap. Adj. factor due to Impeding mvmnt			
Movement Capacity			
Part 2 - Second Stage			
Conflicting Flows			
Potential Capacity			
Pedestrian Impedance Factor			
Cap. Adj. factor due to Impeding mvmnt			
Movement Capacity			
Part 3 - Single Stage			
Conflicting Flows	477		
Potential Capacity	543		
Pedestrian Impedance Factor	1.00	1.00	
Maj. L, Min T Impedance factor		0.95	
Maj. L, Min T Adj. Imp Factor.		0.96	
Cap. Adj. factor due to Impeding mvmnt	0.95	0.90	
Movement Capacity	514		
Results for Two-stage process:			
a			
y			
C t	514		

Worksheet 8-Shared Lane Calculations

Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (vph)	59		59			
Movement Capacity (vph)	514		909			
Shared Lane Capacity (vph)		657				

Worksheet 9-Computation of Effect of Flared Minor Street Approaches

Movement	7	8	9	10	11	12
	L	T	R	L	T	R
C sep	514		909			
Volume	59		59			
Delay						
Q sep						
Q sep +1						
round (Qsep +1)						
n max						
C sh		657				
SUM C sep						
n						
C act						

Worksheet 10-Delay, Queue Length, and Level of Service

Movement	1	4	7	8	9	10	11	12
Lane Config		L		LR				
v (vph)		76		118				
C(m) (vph)		1419		657				
v/c		0.05		0.18				
95% queue length		0.17		0.65				
Control Delay		7.7		11.7				
LOS		A		B				
Approach Delay				11.7				
Approach LOS				B				

Worksheet 11-Shared Major LT Impedance and Delay

	Movement 2	Movement 5
p(oj)	1.00	0.95
v(il), Volume for stream 2 or 5		
v(i2), Volume for stream 3 or 6		
s(il), Saturation flow rate for stream 2 or 5		
s(i2), Saturation flow rate for stream 3 or 6		
P*(oj)		
d(M,LT), Delay for stream 1 or 4		7.7
N, Number of major street through lanes		
d(rank,1) Delay for stream 2 or 5		

HCS+: Unsignalized Intersections Release 5.6

TWO-WAY STOP CONTROL SUMMARY

Analyst:	F.Ramirez
Agency/Co.:	Moreland Altobelli
Date Performed:	8/17/2018
Analysis Time Period:	2042 PM Peak
Intersection:	Spalding St at Jackson Ln Ext
Jurisdiction:	Spalding County
Units: U. S. Customary	
Analysis Year:	2018
Project ID: 0015101	
East/West Street:	Spalding St
North/South Street:	Jackson Ln Ext
Intersection Orientation: EW	Study period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street: Approach	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume		235	70	45	145	
Peak-Hour Factor, PHF		0.92	0.92	0.92	0.92	
Hourly Flow Rate, HFR		255	76	48	157	
Percent Heavy Vehicles		--	--	5	--	--
Median Type/Storage	Undivided /					
RT Channelized?			Yes			
Lanes		1	1	1	1	
Configuration		T	R	L	T	
Upstream Signal?		No			No	

Minor Street: Approach	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume	70		40			
Peak Hour Factor, PHF	0.92		0.92			
Hourly Flow Rate, HFR	76		43			
Percent Heavy Vehicles	2		2			
Percent Grade (%)		0			0	
Flared Approach: Exists?/Storage			No /			/
Lanes	0		0			
Configuration		LR				

Delay, Queue Length, and Level of Service

Approach	EB	WB	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Config		L		LR				
v (vph)		48		119				
C(m) (vph)		1293		580				
v/c		0.04		0.21				
95% queue length		0.12		0.76				
Control Delay		7.9		12.8				
LOS		A		B				
Approach Delay				12.8				
Approach LOS				B				

HCS+: Unsignalized Intersections Release 5.6

Phone: Fax:
E-Mail:

TWO-WAY STOP CONTROL(TWSC) ANALYSIS

Analyst: F.Ramirez
Agency/Co.: Moreland Altobelli
Date Performed: 8/17/2018
Analysis Time Period: 2042 PM Peak
Intersection: Spalding St at Jackson Ln Ext
Jurisdiction: Spalding County
Units: U. S. Customary
Analysis Year: 2018
Project ID: 0015101
East/West Street: Spalding St
North/South Street: Jackson Ln Ext
Intersection Orientation: EW Study period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street Movements	1	2	3	4	5	6
	L	T	R	L	T	R
Volume		235	70	45	145	
Peak-Hour Factor, PHF		0.92	0.92	0.92	0.92	
Peak-15 Minute Volume		64	19	12	39	
Hourly Flow Rate, HFR		255	76	48	157	
Percent Heavy Vehicles		--	--	5	--	--
Median Type/Storage	Undivided		/			
RT Channelized?			Yes			
Lanes		1	1	1	1	
Configuration		T	R	L	T	
Upstream Signal?		No			No	

Minor Street Movements	7	8	9	10	11	12
	L	T	R	L	T	R
Volume	70		40			
Peak Hour Factor, PHF	0.92		0.92			
Peak-15 Minute Volume	19		11			
Hourly Flow Rate, HFR	76		43			
Percent Heavy Vehicles	2		2			
Percent Grade (%)		0			0	
Flared Approach: Exists?/Storage			No	/		/
RT Channelized?						
Lanes	0		0			
Configuration		LR				

Pedestrian Volumes and Adjustments

Movements	13	14	15	16
Flow (ped/hr)	0	0	0	0

Lane Width (ft)	12.0	12.0	12.0	12.0
Walking Speed (ft/sec)	4.0	4.0	4.0	4.0
Percent Blockage	0	0	0	0

Upstream Signal Data

	Prog. Flow vph	Sat Flow vph	Arrival Type	Green Time sec	Cycle Length sec	Prog. Speed mph	Distance to Signal feet
S2 Left-Turn							
Through							
S5 Left-Turn							
Through							

Worksheet 3-Data for Computing Effect of Delay to Major Street Vehicles

	Movement 2	Movement 5
Shared ln volume, major th vehicles:		
Shared ln volume, major rt vehicles:		
Sat flow rate, major th vehicles:		
Sat flow rate, major rt vehicles:		
Number of major street through lanes:		

Worksheet 4-Critical Gap and Follow-up Time Calculation

Critical Gap Calculation

Movement	1 L	4 L	7 L	8 T	9 R	10 L	11 T	12 R
t(c,base)		4.1	7.1		6.2			
t(c,hv)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
P(hv)		5	2		2			
t(c,g)			0.20	0.20	0.10	0.20	0.20	0.10
Percent Grade			0.00	0.00	0.00	0.00	0.00	0.00
t(3,lt)		0.00	0.70		0.00			
t(c,T): 1-stage	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2-stage	0.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
t(c) 1-stage		4.2	6.4		6.2			
2-stage								

Follow-Up Time Calculations

Movement	1 L	4 L	7 L	8 T	9 R	10 L	11 T	12 R
t(f,base)		2.20	3.50		3.30			
t(f,HV)	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
P(HV)		5	2		2			
t(f)		2.2	3.5		3.3			

Worksheet 5-Effect of Upstream Signals

Computation 1-Queue Clearance Time at Upstream Signal

	Movement 2		Movement 5	
	V(t)	V(l,prot)	V(t)	V(l,prot)
V prog				

Total Saturation Flow Rate, s (vph)	
Arrival Type	
Effective Green, g (sec)	
Cycle Length, C (sec)	
Rp (from Exhibit 16-11)	
Proportion vehicles arriving on green P	
g(q1)	
g(q2)	
g(q)	

Computation 2-Proportion of TWSC Intersection Time blocked	Movement 2		Movement 5	
	V(t)	V(l,prot)	V(t)	V(l,prot)
alpha				
beta				
Travel time, t(a) (sec)				
Smoothing Factor, F				
Proportion of conflicting flow, f				
Max platooned flow, V(c,max)				
Min platooned flow, V(c,min)				
Duration of blocked period, t(p)				
Proportion time blocked, p	0.000		0.000	

Computation 3-Platoon Event Periods	Result
p(2)	0.000
p(5)	0.000
p(dom)	
p(subo)	
Constrained or unconstrained?	

Proportion unblocked for minor movements, p(x)	(1) Single-stage Process	(2) Two-Stage Process Stage I	(3) Stage II
p(1)			
p(4)			
p(7)			
p(8)			
p(9)			
p(10)			
p(11)			
p(12)			

Computation 4 and 5 Single-Stage Process								
Movement	1 L	4 L	7 L	8 T	9 R	10 L	11 T	12 R
V c,x		255	508		255			
s								
Px								
V c,u,x								
C r,x								
C plat,x								

Two-Stage Process				
	7	8	10	11

	Stage1	Stage2	Stage1	Stage2	Stage1	Stage2	Stage1	Stage2
V(c,x)								
s		1500						
P(x)								
V(c,u,x)								
C(r,x)								
C(plat,x)								

Worksheet 6-Impedance and Capacity Equations

Step 1: RT from Minor St.			9		12	
Conflicting Flows			255			
Potential Capacity			784			
Pedestrian Impedance Factor			1.00		1.00	
Movement Capacity			784			
Probability of Queue free St.			0.95		1.00	
Step 2: LT from Major St.			**4**		**1**	
Conflicting Flows			255			
Potential Capacity			1293			
Pedestrian Impedance Factor			1.00		1.00	
Movement Capacity			1293			
Probability of Queue free St.			0.96		1.00	
Maj L-Shared Prob Q free St.						
Step 3: TH from Minor St.			**8**		**11**	
Conflicting Flows						
Potential Capacity						
Pedestrian Impedance Factor			1.00		1.00	
Cap. Adj. factor due to Impeding mvmnt			0.96		0.96	
Movement Capacity						
Probability of Queue free St.			1.00		1.00	
Step 4: LT from Minor St.			**7**		**10**	
Conflicting Flows			508			
Potential Capacity			525			
Pedestrian Impedance Factor			1.00		1.00	
Maj. L, Min T Impedance factor					0.96	
Maj. L, Min T Adj. Imp Factor.					0.97	
Cap. Adj. factor due to Impeding mvmnt			0.96		0.92	
Movement Capacity			506			

Worksheet 7-Computation of the Effect of Two-stage Gap Acceptance

Step 3: TH from Minor St.			**8**		**11**	
Part 1 - First Stage						
Conflicting Flows						
Potential Capacity						
Pedestrian Impedance Factor						
Cap. Adj. factor due to Impeding mvmnt						
Movement Capacity						
Probability of Queue free St.						

Part 2 - Second Stage						
Conflicting Flows						
Potential Capacity						
Pedestrian Impedance Factor						
Cap. Adj. factor due to Impeding mvmnt						
Movement Capacity						
Part 3 - Single Stage						
Conflicting Flows						
Potential Capacity						
Pedestrian Impedance Factor			1.00		1.00	
Cap. Adj. factor due to Impeding mvmnt			0.96		0.96	
Movement Capacity						
Result for 2 stage process:						
a						
y						
C t						
Probability of Queue free St.			1.00		1.00	
Step 4: LT from Minor St.			7		10	
Part 1 - First Stage						
Conflicting Flows						
Potential Capacity						
Pedestrian Impedance Factor						
Cap. Adj. factor due to Impeding mvmnt						
Movement Capacity						
Part 2 - Second Stage						
Conflicting Flows						
Potential Capacity						
Pedestrian Impedance Factor						
Cap. Adj. factor due to Impeding mvmnt						
Movement Capacity						
Part 3 - Single Stage						
Conflicting Flows			508			
Potential Capacity			525			
Pedestrian Impedance Factor			1.00		1.00	
Maj. L, Min T Impedance factor					0.96	
Maj. L, Min T Adj. Imp Factor.					0.97	
Cap. Adj. factor due to Impeding mvmnt			0.96		0.92	
Movement Capacity			506			
Results for Two-stage process:						
a						
y						
C t			506			

Worksheet 8-Shared Lane Calculations

Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (vph)	76		43			
Movement Capacity (vph)	506		784			
Shared Lane Capacity (vph)		580				

Worksheet 9-Computation of Effect of Flared Minor Street Approaches

Movement	7	8	9	10	11	12
	L	T	R	L	T	R
C sep	506		784			
Volume	76		43			
Delay						
Q sep						
Q sep +1						
round (Qsep +1)						
n max						
C sh		580				
SUM C sep						
n						
C act						

Worksheet 10-Delay, Queue Length, and Level of Service

Movement	1	4	7	8	9	10	11	12
Lane Config		L		LR				
v (vph)		48		119				
C(m) (vph)		1293		580				
v/c		0.04		0.21				
95% queue length		0.12		0.76				
Control Delay		7.9		12.8				
LOS		A		B				
Approach Delay				12.8				
Approach LOS				B				

Worksheet 11-Shared Major LT Impedance and Delay

	Movement 2	Movement 5
p(oj)	1.00	0.96
v(il), Volume for stream 2 or 5		
v(i2), Volume for stream 3 or 6		
s(il), Saturation flow rate for stream 2 or 5		
s(i2), Saturation flow rate for stream 3 or 6		
P*(oj)		
d(M,LT), Delay for stream 1 or 4		7.9
N, Number of major street through lanes		
d(rank,1) Delay for stream 2 or 5		

1: Searcy Ave. & E. Solomon St. Performance by movement

Movement	EBT	EBR	WBL	WBT	NBL	NBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.2	0.1	0.1	0.1	0.1	0.2	0.2
Total Delay (hr)	0.3	0.0	0.0	0.0	0.1	0.0	0.4
Total Del/Veh (s)	6.9	2.6	0.6	0.8	5.4	2.9	3.2

Total Network Performance

Denied Delay (hr)	0.0
Denied Del/Veh (s)	0.2
Total Delay (hr)	0.6
Total Del/Veh (s)	4.3

Intersection: 1: Searcy Ave. & E. Solmon St./E. Solomon St.

Movement	EB	EB	WB	WB	NB
Directions Served	T	R	L	T	LR
Maximum Queue (ft)	76	54	28	52	49
Average Queue (ft)	40	25	11	14	27
95th Queue (ft)	61	50	34	40	49
Link Distance (ft)	404	404	15	15	303
Upstream Blk Time (%)			1	1	
Queuing Penalty (veh)			0	0	
Storage Bay Dist (ft)					
Storage Blk Time (%)					
Queuing Penalty (veh)					

Network Summary

Network wide Queuing Penalty: 0

1: Searcy Ave. & E. Solomon St./E. Solomon St. Performance by movement

Movement	EBT	EBR	WBL	WBT	NBL	NBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.2	0.2	0.1	0.1	0.1	0.2	0.2
Total Delay (hr)	0.6	0.1	0.0	0.0	0.1	0.0	0.8
Total Del/Veh (s)	7.8	3.0	0.6	0.9	5.7	3.3	4.7

Total Network Performance

Denied Delay (hr)	0.0
Denied Del/Veh (s)	0.2
Total Delay (hr)	1.0
Total Del/Veh (s)	5.9

Intersection: 1: Searcy Ave. & E. Solomon St./E. Solomon St.

Movement	EB	EB	WB	WB	NB
Directions Served	T	R	L	T	LR
Maximum Queue (ft)	124	56	28	52	49
Average Queue (ft)	53	32	12	12	28
95th Queue (ft)	88	47	35	38	53
Link Distance (ft)	404	404	15	15	303
Upstream Blk Time (%)			1	1	
Queuing Penalty (veh)			0	0	
Storage Bay Dist (ft)					
Storage Blk Time (%)					
Queuing Penalty (veh)					

Network Summary

Network wide Queuing Penalty: 0

GDOT INTERSECTION CONTROL EVALUATION (ICE) TOOL

ICE Version 2.14 | Revised 08/03/2018

GDOT PI # (or N/A): 0015101 Request By: GDOT

County: Spalding GDOT District: 3 - Thomaston

Major (State) Road: E. Solomon St Speed Limit: 35 mph

Minor (Crossing) ST: Jackson Ln Speed Limit: 35 mph

Major ST Direction: East/West Area Type: Urban

Intersection Control: Conventional (All-Way Stop)

Prepared By: Moreland Altobelli Analyst: F. Ramirez

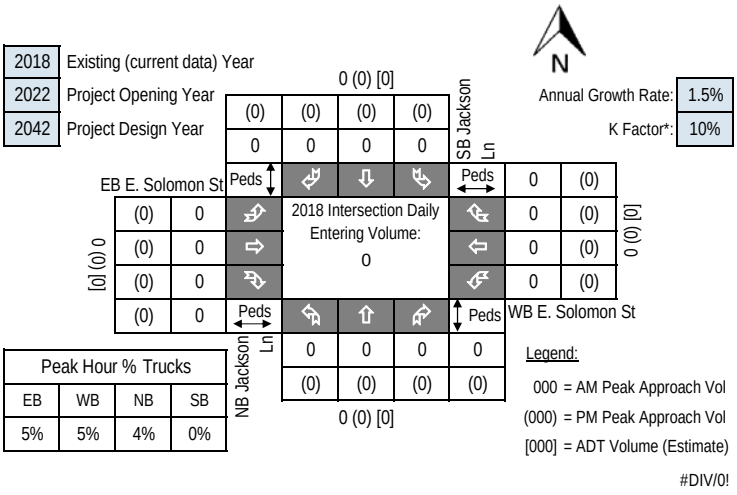
Date: 8/16/2018 Project ID:

Project Purpose: Intersection Improvement

2018	Existing (current data) Year
2022	Project Opening Year
2042	Project Design Year

Annual Growth Rate: 1.5%

K Factor*: 10%



Peak Hour % Trucks			
EB	WB	NB	SB
5%	5%	4%	0%

Legend:

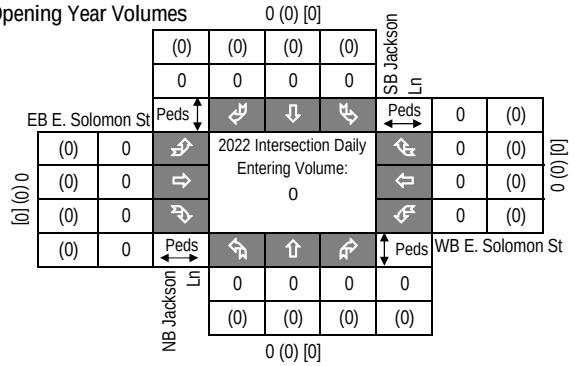
000 = AM Peak Approach Vol

(000) = PM Peak Approach Vol

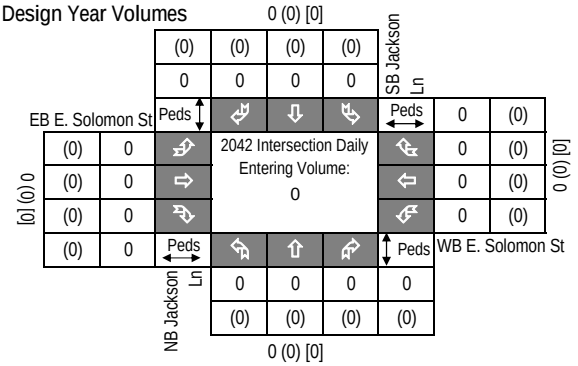
[000] = ADT Volume (Estimate)

#DIV/0!

2022 Opening Year Volumes



2042 Design Year Volumes



Introduction: In 2005, SAFETEA-LU established the Highway Safety Improvement Program (HSIP) and mandated that each state prepare a Strategic Highway Safety Plan (SHSP) to prioritize safety funding investments. Intersections quickly became a common component of most states' SHSP emphasis areas and HSIP project lists, including Georgia's SHSP. Intersection Control Evaluation (ICE) policies and procedures represent a traceable and transparent procedure to streamline the evaluation of intersection control alternatives, and further leverage safety advancements for intersection improvements beyond just the safety program. Approximately one-third of all traffic fatalities and roughly seventy five percent of all traffic crashes in Georgia occur at or adjacent to intersections. Accordingly, the Georgia SHSP includes an emphasis on enhancing intersection safety to advance the *Toward Zero Deaths* vision embraced by the Georgia Governor's Office of Highway Safety (GOHS). This ICE tool was developed to support the ICE policy, developed and adopted to help ensure that intersection investments across the entire Georgia highway system are selected, prioritized and implemented with defensible benefits for safety towards those ends.

Tool Goal: The goal of this ICE tool is to provide a simplified and consistent way of importing traffic, safety, cost, environmental impact and stakeholder posture data to assess and quantify intersection control improvement benefits. The tool supports the ICE policy and procedures to provide traceability, transparency, consistency and accountability when identifying and selecting an intersection control solution that both meets project purpose and reflects overall best value in terms of specific performance-based criteria.

Requirements: An ICE is required for any intersection improvement (e.g. new or modified intersection, widening/reconstruction or corridor project, or work accomplished through a driveway or encroachment permit that affects an intersection) where: 1) the intersection includes at least one roadway designated as a State Route (State Highway System) or as part of the National Highway System; or 2) the intersection will be designed or constructed using State or Federal funding. In certain circumstances where an ICE would otherwise be required, the requirement may be waived based on appropriate evidence presented with a written request. (See the "Waiver" tab to review criteria that may make a project waiver eligible and for instructions to submit a waiver request to the Department). An ICE is not required when the proposed work does not include any changes to the intersection design, involves only routine traffic signal timing and equipment maintenance, or for driveway permits where the driveway is not a new leg to an already existing intersection on either 1) a divided, multi-lane highway with a closed median and only right-in/right-out access or 2) an undivided roadway where the development is not required to construct left and/or right turn lanes (as per the Driveway Manual and District Traffic Engineer).

Two-Stage Process: A complete ICE process consists of two (2) distinct stages, and it is expected that the respective level of effort for completing both stages of ICE will correspond to the magnitude and complexity of the intersection. Prior to starting an ICE, the District Traffic Engineer and/or State Traffic Engineer should be consulted for advice on an appropriate level of effort. The Stage 1 and Stage 2 ICE forms are designed minimize required data inputs using drop-down menu choices and limiting text entry. All fields shaded grey include drop down menu choices and all fields shaded blue require data entry. All other cells in the worksheet are locked.

Stage 1: Screening Decision Record Stage 1 should be conducted early in the project development process and is intended to inform which alternatives are worthy of further evaluation in Stage 2. Stage 1 serves as a screening effort meant to *eliminate* non-competitive options and identify which alternatives merit further considerations based on their practical feasibility. Users should use good engineering judgement in responding to the seven policy questions by selecting "Yes" or "No" in the drop-down boxes. Alternatives should not be summarily eliminated without due consideration, and reasons for eliminating or advancing an alternative should be documented in the "Screening Decision Justification" column.

Stage 2: Alternative Selection Decision Record Stage 2 involves a more detailed and familiar evaluation of the alternatives identified in Stage 1 in order to support the selection of a preferred alternative that may be advanced to detailed design. Stage 2 data entry may require the use of external analysis tools to determine costs, operations and/or safety data that, combined with environmental and stakeholder posture data, form the basis of the ICE evaluation. A separate "CostEst" worksheet tab helps users develop pre-planning-level cost estimates for each Stage 2 alternative evaluated, and a separate Users Guide has been prepared to give guidance on Stage 1 and Stage 2 data entry. Once all data is entered, each alternative is scored and ranked, with the results reported at the bottom of the Stage 2 worksheet to inform on the best of the intersection controls evaluated for project recommendation.

Documentation: A complete ICE document consists of the combination of the outputs from either a completed and signed waiver form or both Stage 1 and Stage 2 worksheets (along with supporting costing and/or environmental documentation), to be included in the approved project Concept Report (or equivalent) or as a stand-alone document.

GDOT ICE STAGE 1: SCREENING DECISION RECORD

ICE Version 2.14 | Revised 08/03/2018

GDOT PI #	0015101
Project Location:	E. Solomon St @ Jackson Ln
Prepared by:	Moreland Altobelli
Analyst:	F. Ramirez
Date:	8/16/2018

Answer "Yes" or "No" to each policy question for each control type to identify which alternatives should be evaluated in the Stage 2 Decision Record; enter justification in the rightmost column

Note: Up to 5 alternatives may be selected and evaluated; Use this ICE Stage 1 to screen 5 or fewer alternatives to evaluate in Stage 2

	Intersection Alternative (see "Intersections" tab for detailed description of intersection/interchange type)	1. Does alternative address the project need in a balanced manner and in scale with the project?	2. Does alternative improve safety performance in terms of reducing severe crashes?	3. Does alternative incorporate safety, convenience and accessibility for pedestrians and/or bicyclists?	4. Does alternative improve (or preserve) traffic operations (congestion, delay, reliability, etc.)?	5. Does alternative appear feasible given the site characteristics, constrains & location context?	6. Does alternative appear feasible with respect to other project factors?	7. Overall feasible alternative (select alternative for further evaluation in Stage 2)?	Screening Decision Justification:
Unsignalized Intersections	Conventional (Minor Stop)	Yes	No	No	Yes	Yes	Yes	Yes	Potential solution to evaluate
	Conventional (All-Way Stop)	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Potential solution to evaluate
	Mini Roundabout	Yes	Yes	No	Yes	Yes	No	No	High truck volumes are expected at this intersection - UPS facility nearby
	Single Lane Roundabout	Yes	Yes	No	Yes	Yes	Yes	Yes	Potential solution to evaluate
	Multilane Roundabout	No	Yes	No	Yes	No	No	No	E Solomon St & Jackson Ln are two-lane roadways
	RCUT (stop control)	No	Yes	Yes	Yes	No	No	No	A median is not being proposed as part of this project
	RIRO w/down stream U-Turn	No	Yes	Yes	Yes	No	No	No	A median is not being proposed as part of this project
	High-T (unsignalized)	No	No	No	No	No	No	No	Not a T-intersection
	Offset-T Intersections	No	Yes	Yes	No	No	No	No	Significant impact to ROW cost - Low traffic volumes
	Diamond Interch (Stop Control)	No	No	No	No	No	No	No	Alternative not applicable
	Diamond Interch (RAB Control)	No	No	No	No	No	No	No	Alternative not applicable
	No LT Lane Improvements No RT Lane Improvements	No	No	No	No	No	No	No	N/A
	Other unignalized (provide description):	No	No	No	No	No	No	No	Likely not meet signal warrants
Signalized Intersections	Traffic Signal	No	No	No	No	No	No	No	Likely not meet signal warrants
	Median U-Turn (Indirect Left)	No	No	No	No	No	No	No	Likely not meet signal warrants
	RCUT (signalized)	No	No	No	No	No	No	No	Likely not meet signal warrants
	Displaced Left Turn (CFI)	No	No	No	No	No	No	No	Likely not meet signal warrants
	Continuous Green-T	No	No	No	No	No	No	No	Likely not meet signal warrants
	Jughandle	No	No	No	No	No	No	No	Likely not meet signal warrants
	Quadrant Roadway	No	No	No	No	No	No	No	Likely not meet signal warrants
	Diamond Interch (Signal Control)	No	No	No	No	No	No	No	Likely not meet signal warrants
	Diverging Diamond	No	No	No	No	No	No	No	Likely not meet signal warrants
	Single Point Interchange	No	No	No	No	No	No	No	Likely not meet signal warrants
	No LT Lane Improvements No RT Lane Improvements	No	No	No	No	No	No	No	N/A
	Other Signalized (provide description):	No	No	No	No	No	No	No	N/A

☐ = Intersection type selected for more detailed analysis in Stage 2 Alternative Selection Decision Record

GDOT ICE STAGE 2: ALTERNATIVE SELECTION DECISION RECORD

ICE Version 2.14 | Revised 08/03/2018

GDOT PI # (or N/A): 0015101 | GDOT District: 3 - Thomaston | Date: 8/16/2018
County: Spalding | Area Type: Urban | Agency/Firm: Moreland Altobelli
Project Location: E. Solomon St @ Jackson Ln | Analyst: F. Ramirez
Existing Intersection Control: Conventional (All-Way Stop) | Type of Analysis: Conventional Non-Safety Funded Project

Opening / Design Year Traffic Operations

Intersection meets signal/AWS warrants?	Meets AWS only	
Traffic Analysis Measure of Effectiveness	Network Delay	
Traffic Analysis Software Used	Other (explain below)	
Analysis Time Period	AM Peak Hr	PM Peak Hr
2022 Open Yr No-Build Peak Hr Network Delay	7.3 sec	8.0 sec
2042 Design Yr No-Build Peak Hr Network Delay	7.8 sec	8.0 sec

Complete Streets Warrants Met?
- ☐ PEDESTRIANS
- ☐ BICYCLES
- ☐ TRANSIT

Crash Type: Crash Data: Enter 5 most recent years of intersection crash data	Crash Severity: PDO	Injury Crash*	Fatal Crash*	
Angle	3	0	0	38%
Head-On	0	0	0	0%
Rear End	3	0	0	38%
Sideswipe - same	1	0	0	13%
Sideswipe - opposite	0	0	0	0%
Not Collision w/Motor Veh	1	0	0	13%
TOTALS:	8	0	0	8

* Number of crashes resulting in injuries / fatalities, not number of persons

Alternatives Analysis:

	Alternative 1	Alternative 2	Alternative 3	Alternative 4	Alternative 5
Proposed Control Type/Improvement:	Conventional (Minor Stop)	Conventional (All-Way Stop)	Single Lane Roundabout	N/A	N/A
Project Cost: (From CostEst Worksheet)	*Additional description here*	*Additional description here*	*Additional description here*		
Construction Cost	$0	$140,000	$1,254,000		
ROW Cost	$1,015,000	$1,015,000	$1,015,000		
Environmental Cost	$0	$50,000	$166,000		
Reimbursable Utility Cost	$2,833,633	$2,833,633	$2,833,633		
Design & Contingency Cost	$0	$28,000	$422,000		
Cost Adjustment (justification req'd)	0%	0%	0%		
Total Cost	$3,848,633	$4,066,633	$5,690,633		
Traffic Operations:	*User Cost Override*	*User Cost Override*	*User Cost Override*		
Traffic Analysis Software Used	HCS 2010	HCS 2010	GDOT RND Tool 4.1		
Analysis Period	AM Peak Hr / PM Peak Hr	AM Peak Hr / PM Peak Hr	AM Peak Hr / PM Peak Hr		
2042 Design Yr Build Network Delay	14.4 sec / 14.4 sec	8.8 sec / 9.3 sec	6.0 sec / 6.0 sec		
Safety Analysis:					
Predefined CRF: PDO	0%	0%	-3%		
Predefined CRF: Fatal/Inj	0%	0%	88%		
Predefined CRF Source:	N/A	N/A	FHWA Clearinghouse #s 242 / 210		
User Defined CRF: PDO					
User Defined CRF: Fatal/Inj					
User Defined CRF Source (write in if applicable):					
Environmental Impacts:[1]					
Historic District/Property	Minimal	Minimal	**Significant**		
Archaeology Resources	None	None	None		
Graveyard	None	None	None		
Stream	None	None	None		
Underground Tank/Hazmat	None	None	None		
Park Land	None	None	None		
EJ Community	None	None	None		
Wooded Area	None	None	None		
Wetland	None	None	None		
Stakeholder Posture:	*Note: If environmental impact is significant (**RED**), provide justification impact won't jeopardize project delivery using "Env" worksheet*				
	[1] Environmental impacts are only preliminary estimates; detailed environmental impact documentation will be included with project concept report				
Local Community Support	Neutral	Neutral	Neutral		
GDOT Support	Neutral	Neutral	Neutral		
Final ICE Stage 2 Score:	3.3	4.5	4.4		
Rank of Control Type Alternatives:	3	1	2		

Note: Stage 2 score is not given (shown as "-") if signal or AWS is selected as control type but respective warrants are not met

Provide additional comments and/or explain any unique analysis inputs, or results (as necessary): The No-Build condition was analyzed using SimTraffic. See cost estimate of the preferred alternative.

GDOT ICE TOOL: COST ESTIMATING AID

ICE Version 2.14 | Revised 08/03/2018

Project Information

Location: E. Solomon St @ Jackson Ln
County: Spalding
Date: 8/16/2018
GDOT PI # (or N/A): 0015101
Area Type: Urban
Agency/Firm: Moreland Altobelli
Existing Intersection Control: Conventional (All-Way Stop)
GDOT District: 3 - Thomaston
Analyst: F. Ramirez
Type of Analysis: Conventional Non-Safety Funded Project
Major Street Direction: East/West

Table 1: Existing Conditions

	EB E. Solomon St			WB E. Solomon St			NB Jackson Ln			SB Jackson Ln		
Movement	Left Turn	Thru	Right Turn	Left Turn	Thru	Right Turn	Left Turn	Thru	Right Turn	Left Turn	Thru	Right Turn
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0
Lane Widths*	0'	12'	0'	0'	12'	0'	0'	12'	0'	0'	12'	0'
Bay Length**	0'		0'	0'		0'	0'		0'	0'		0'
Median Width		0'			0'			0'			0'	
Right-of-Way	40'						40'					

Table 2: Proposed Conditions

	Conventional (Minor Stop)	Conventional (All-Way Stop)	Single Lane Roundabout	N/A	N/A
Proposed Pavement Type	F.D. Asphalt	F.D. Asphalt	F.D. Asphalt	F.D. Asphalt	None
Reimbursable Utility:	Moderate	Moderate	Moderate	Moderate	Moderate
# of Driveway(s) Impacted	0	0	0	0	0
Modify/Replace Traffic Signal	0	0	0	0	0
Lighting Poles (ea)	0	0	0	0	0
Flashing Beacons (ea)	0	0	0	0	0
RFB/PHB Ped Crossings (ea)	0	0	0	0	0
New/Replace Sidewalks (LF)	0'	0'	0'	0'	0'
New/Replace Cross Drains (LF)	0'	0'	0'	0'	0'
New/Replace Guardrail (LF)	0'	0'	0'	0'	0'
New Retaining Wall (LF)	0'	0'	0'	0'	0'
Bridge:New/Widen/Replace (sqft)	0	0	0	0	0
Add'l ROW/Easements/Demolition	$0	$0	$0	$0	$0

Site Context

Topography:	Level
Traffic Mgmt Plan:	Maintain Traffic
Project Size:	Single Intersection

Intersections

Signal Poles	Mast Arm
Design Vehicle	WB-67
Existing Interchange?	No

Roundabouts

Inscribed DIA - Mini	80
Inscribed DIA - Single	140
Inscribed DIA - Multi	200
Circulating Lane Width	18

Cost Multipliers

Grading Complete:	15%
Reimbursable Utility:	5%
Traffic Control:	20%
Project Size:	0%
Prelim Engineering:	15%
Project Contingency:	20%

ROW Costs

Prevalent ROW Type:	Mixed (Average)
ROW Cost/Acre:	$128,625
ROW Multiplier:	1.6

Table 3: Control Type Cost Breakdown

Pay Item	Per Ln Mi Unit Cost	Unit Cost	Conventional (Minor Stop) Quantity	Conventional (Minor Stop) Cost	Stop) Quantity	Stop) Cost	Single Lane Roundabout Quantity	Single Lane Roundabout Cost	N/A Quantity	N/A Cost	N/A Quantity	N/A Cost
New Construction (Base & Pave)	$500K/LM	$9.47/sqft	0	$0	13,906	$131,686	27,699	$453,525				
Roadway Mill and Overlay	$64K/LM	$1.21/sqft	0	$0	0	$0	0	$0				
Urban C&G/Drainage - both sides	441-6720	$19.08/LF	0	$0	0	$0	2,000	$65,979				
Rural Typ Drainage - both sides	$150K/LM	$2.84/LF	0	$0	0	$0	0	$0				
Concrete Island (sqyd)	n/a	$51.58/syd	0	$0	0	$0	480	$42,807				
Median Landscaping	$100K/LM	$1.89/LF	0	$0	0	$0	3,000	$9,824				
Typical Driveways Impacted (ea)	n/a	$7,500 ea	0	$0	0	$0	0	$0				
Typical E&S Control Temp/Perm	$150K/LM	$34.09/LF	0	$0	0	$0	1,000	$45,341				
Roundabout Truck Apron (sqft)	n/a	$10.25/sqft	0	$0	0	$0	5,278	$93,542				
Signing & Marking	$0	$22.73/LF	0	$0	400	$9,092	1,000	$30,231				
Flashing Beacon (ea)	n/a	$20,000 ea	0	$0	0	$0	0	$0				
New Traffic Signal (Mast Arms)	674-1000	$182,575ea	0	$0	0	$0	0	$0				
Lighting (per pole)	n/a	$5,607 ea	0	$0	0	$0	0	$0				
Signalized Ped Crossings (ea)	n/a	$19,637 ea	0	$0	0	$0	0	$0				
6' Sidewalk (LF)	n/a	$49.23/LF	0	$0	0	$0	0	$0				
New/replace cross drains (LF)	n/a	$41.31/LF	0	$0	0	$0	0	$0				
Typical Guardrail (LF)	n/a	$65.56/LF	0	$0	0	$0	0	$0				
Retaining Wall (LF)	n/a	$808.52/LF	0	$0	0	$0	0	$0				
Bridge widen/replace (SF)	n/a	$210/sqft	0	$0	0	$0	0	$0				
Env Costs (from Stage 2 impacts)	n/a	n/a	0	$0	0	$50,000	0	$166,250				
Grading Complete - 15%	n/a	n/a		$0		$0		$271,569				
Traffic Control - 20%	n/a	n/a		$0		$0		$241,395				
Reimbrusable Utility	n/a	n/a		$0		$7,039		$37,062				
Preliminary Engineering - 15%	n/a	n/a		$0		$28,617		$181,046				
Contigency - 20%	n/a	n/a		$0		$0		$241,395				
ROW Cost/Acre: Mixed (Average)	n/a	$128,625ac		$0		$0		$42,521				
Add'l ROW / Displacement / Demo	n/a	n/a		$0		$0		$0				
ROW Multiplier - 1.6	n/a	n/a		$0		$0		$25,512				
Project Scale Reduction - 0.0%	n/a	n/a		$0		$0		$0				
Grand Total Costs				$0		$226,000		$1,948,000				

Table 4: Assumption Adjustments/Quantity Overrides

Alternative Evaluated	Assumptions:	Pavement	Calculated ROW (ac)	User Override*	Calculated Pavement	User Override*	Major ST Const Limits	User Override*	Minor ST Const Limits	User Override*
Conventional (Minor Stop)	N/A	F.D. Asphalt	0.00	0.0	0	13,906.0	70	200.0	70	200.0
Conventional (All-Way Stop)	--select one--	F.D. Asphalt	0.00	0.0	0	13,906.0	70	200.0	70	200.0
Single Lane Roundabout	--select one--	F.D. Asphalt	0.33	0.0	27,699	0.0	500	0.0	500	0.0
N/A	#N/A	F.D. Asphalt	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
N/A	#N/A	None	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A

1: Searcy Ave. & E. Solmon St./E. Solomon St. Performance by movement

Movement	EBT	EBR	WBL	WBT	NBL	NBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.2	0.1	0.0	0.0	0.1	0.2	0.1
Total Delay (hr)	0.2	0.0	0.0	0.1	0.1	0.1	0.5
Total Del/Veh (s)	6.7	3.4	1.1	1.8	5.5	3.3	3.5

2: Spalding St./N. Searcy Ave. & E. Solomon St. Performance by movement

Movement	EBL	EBT	EBR	WBT	WBR	NBL	NBT	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0	0.2	0.1	0.1	0.2	0.1
Total Delay (hr)	0.0	0.0	0.0	0.3	0.0	0.1	0.0	0.5
Total Del/Veh (s)	0.9	1.4	0.8	7.2	2.6	5.0	7.0	4.4

Total Network Performance

Denied Delay (hr)	0.0
Denied Del/Veh (s)	0.2
Total Delay (hr)	1.0
Total Del/Veh (s)	7.3

1: Searcy Ave. & E. Solmon St./E. Solomon St. Performance by movement

Movement	EBT	EBR	WBL	WBT	NBL	NBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.4	0.4	0.0	0.0	0.1	0.2	0.2
Total Delay (hr)	0.4	0.1	0.0	0.1	0.1	0.0	0.7
Total Del/Veh (s)	8.0	4.6	1.0	1.6	6.0	3.4	4.7

2: Spalding St./N. Searcy Ave. & E. Solomon St. Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	NBL	NBT	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0	0.1	0.2	0.1	0.2	0.1
Total Delay (hr)	0.0	0.1	0.0	0.0	0.2	0.1	0.1	0.5
Total Del/Veh (s)	1.3	2.0	0.9	6.6	6.8	5.6	7.1	4.0

Total Network Performance

Denied Delay (hr)	0.0
Denied Del/Veh (s)	0.2
Total Delay (hr)	1.3
Total Del/Veh (s)	8.0

1: Searcy Ave. & E. Solmon St./E. Solomon St. Performance by lane

Lane	EB	WB	NB	All
Movements Served	TR	LT	LR	
Denied Del/Veh (s)				0.1
Total Del/Veh (s)	6.3	1.6	4.9	3.8

2: Spalding St./N. Searcy Ave. & E. Solomon St. Performance by lane

Lane	EB	WB	NB	All
Movements Served	LTR	LTR	LTR	
Denied Del/Veh (s)				0.1
Total Del/Veh (s)	1.3	7.2	6.4	4.7

Total Network Performance

Denied Del/Veh (s)	0.2
Total Del/Veh (s)	7.8

1: Searcy Ave. & E. Solmon St./E. Solomon St. Performance by lane

Lane	EB	WB	NB	All
Movements Served	TR	LT	LR	
Denied Del/Veh (s)				0.2
Total Del/Veh (s)	7.3	1.4	4.8	5.0

2: Spalding St./N. Searcy Ave. & E. Solomon St. Performance by lane

Lane	EB	WB	NB	All
Movements Served	LTR	LTR	LTR	
Denied Del/Veh (s)				0.1
Total Del/Veh (s)	1.4	6.7	6.2	3.6

Total Network Performance

Denied Del/Veh (s)	0.2
Total Del/Veh (s)	8.0

HCS+: Unsignalized Intersections Release 5.6

TWO-WAY STOP CONTROL SUMMARY

Analyst: F. Ramirez
Agency/Co.: Moreland Altobelli
Date Performed: 5/9/2018
Analysis Time Period: 2042 AM
Intersection: E Solomon St at Jackson Ln
Jurisdiction: Spalding County
Units: U. S. Customary
Analysis Year: 2018
Project ID: 0015101
East/West Street: E Solomon St
North/South Street: Jackson Ln
Intersection Orientation: EW Study period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street: Approach	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume	60	60	60	0	85	0
Peak-Hour Factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Hourly Flow Rate, HFR	65	65	65	0	92	0
Percent Heavy Vehicles	7	--	--	7	--	--
Median Type/Storage	Undivided /					
RT Channelized?						
Lanes	0	1	0	0	1	0
Configuration		LTR			LTR	
Upstream Signal?		No			No	

Minor Street: Approach	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume	85	25	0	0	25	75
Peak Hour Factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Hourly Flow Rate, HFR	92	27	0	0	27	81
Percent Heavy Vehicles	6	6	6	18	18	18
Percent Grade (%)		0			0	
Flared Approach: Exists?/Storage		No /			No /	
Lanes	0	1	0	0	1	0
Configuration		LTR			LTR	

Delay, Queue Length, and Level of Service

Approach	EB	WB	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Config	LTR	LTR		LTR			LTR	
v (vph)	65	0		119			108	
C(m) (vph)	1472	1425		501			774	
v/c	0.04	0.00		0.24			0.14	
95% queue length	0.14	0.00		0.92			0.48	
Control Delay	7.6	7.5		14.4			10.4	
LOS	A	A		B			B	
Approach Delay				14.4			10.4	
Approach LOS				B			B	

HCS+: Unsignalized Intersections Release 5.6

Phone: Fax:
E-Mail:

TWO-WAY STOP CONTROL(TWSC) ANALYSIS

Analyst: F. Ramirez
Agency/Co.: Moreland Altobelli
Date Performed: 5/9/2018
Analysis Time Period: 2042 AM
Intersection: E Solomon St at Jackson Ln
Jurisdiction: Spalding County
Units: U. S. Customary
Analysis Year: 2018
Project ID: 0015101
East/West Street: E Solomon St
North/South Street: Jackson Ln
Intersection Orientation: EW Study period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street Movements	1 L	2 T	3 R	4 L	5 T	6 R
Volume	60	60	60	0	85	0
Peak-Hour Factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Peak-15 Minute Volume	16	16	16	0	23	0
Hourly Flow Rate, HFR	65	65	65	0	92	0
Percent Heavy Vehicles	7	--	--	7	--	--
Median Type/Storage	Undivided /					
RT Channelized?						
Lanes	0	1	0	0	1	0
Configuration	LTR			LTR		
Upstream Signal?	No			No		

Minor Street Movements	7 L	8 T	9 R	10 L	11 T	12 R
Volume	85	25	0	0	25	75
Peak Hour Factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Peak-15 Minute Volume	23	7	0	0	7	20
Hourly Flow Rate, HFR	92	27	0	0	27	81
Percent Heavy Vehicles	6	6	6	18	18	18
Percent Grade (%)		0			0	
Flared Approach: Exists?/Storage		No /			No /	
RT Channelized?						
Lanes	0	1	0	0	1	0
Configuration		LTR			LTR	

Pedestrian Volumes and Adjustments

Movements	13	14	15	16
Flow (ped/hr)	0	0	0	0

Lane Width (ft)	12.0	12.0	12.0	12.0
Walking Speed (ft/sec)	4.0	4.0	4.0	4.0
Percent Blockage	0	0	0	0

Upstream Signal Data

	Prog. Flow vph	Sat Flow vph	Arrival Type	Green Time sec	Cycle Length sec	Prog. Speed mph	Distance to Signal feet
S2 Left-Turn							
Through							
S5 Left-Turn							
Through							

Worksheet 3-Data for Computing Effect of Delay to Major Street Vehicles

	Movement 2	Movement 5
Shared ln volume, major th vehicles:	65	92
Shared ln volume, major rt vehicles:	65	0
Sat flow rate, major th vehicles:	1700	1700
Sat flow rate, major rt vehicles:	1700	1700
Number of major street through lanes:	1	1

Worksheet 4-Critical Gap and Follow-up Time Calculation

Critical Gap Calculation

Movement	1 L	4 L	7 L	8 T	9 R	10 L	11 T	12 R
t(c,base)	4.1	4.1	7.1	6.5	6.2	7.1	6.5	6.2
t(c,hv)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
P(hv)	7	7	6	6	6	18	18	18
t(c,g)			0.20	0.20	0.10	0.20	0.20	0.10
Percent Grade			0.00	0.00	0.00	0.00	0.00	0.00
t(3,lt)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
t(c,T): 1-stage	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2-stage	0.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
t(c) 1-stage	4.2	4.2	7.2	6.6	6.3	7.3	6.7	6.4
2-stage								

Follow-Up Time Calculations

Movement	1 L	4 L	7 L	8 T	9 R	10 L	11 T	12 R
t(f,base)	2.20	2.20	3.50	4.00	3.30	3.50	4.00	3.30
t(f,HV)	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
P(HV)	7	7	6	6	6	18	18	18
t(f)	2.3	2.3	3.6	4.1	3.4	3.7	4.2	3.5

Worksheet 5-Effect of Upstream Signals

Computation 1-Queue Clearance Time at Upstream Signal

	Movement 2		Movement 5	
	V(t)	V(l,prot)	V(t)	V(l,prot)
V prog				

Total Saturation Flow Rate, s (vph)	
Arrival Type	
Effective Green, g (sec)	
Cycle Length, C (sec)	
Rp (from Exhibit 16-11)	
Proportion vehicles arriving on green P	
g(q1)	
g(q2)	
g(q)	

Computation 2-Proportion of TWSC Intersection Time blocked	Movement 2		Movement 5	
	V(t)	V(l,prot)	V(t)	V(l,prot)
alpha				
beta				
Travel time, t(a) (sec)				
Smoothing Factor, F				
Proportion of conflicting flow, f				
Max platooned flow, V(c,max)				
Min platooned flow, V(c,min)				
Duration of blocked period, t(p)				
Proportion time blocked, p	0.000		0.000	

Computation 3-Platoon Event Periods	Result
p(2)	0.000
p(5)	0.000
p(dom)	
p(subo)	
Constrained or unconstrained?	

Proportion unblocked for minor movements, p(x)	(1) Single-stage Process	(2) Two-Stage Process Stage I	(3) Stage II
p(1)			
p(4)			
p(7)			
p(8)			
p(9)			
p(10)			
p(11)			
p(12)			

Computation 4 and 5
Single-Stage Process

Movement	1 L	4 L	7 L	8 T	9 R	10 L	11 T	12 R
V c,x	92	130	374	320	98	333	352	92
s								
Px								
V c,u,x								
C r,x								
C plat,x								

Two-Stage Process

7	8	10	11

	Stage1	Stage2	Stage1	Stage2	Stage1	Stage2	Stage1	Stage2
V(c,x)								
s		1500		1500		1500		1500
P(x)								
V(c,u,x)								
C(r,x)								
C(plat,x)								

Worksheet 6-Impedance and Capacity Equations

Step 1: RT from Minor St.	9	12
Conflicting Flows	98	92
Potential Capacity	947	923
Pedestrian Impedance Factor	1.00	1.00
Movement Capacity	947	923
Probability of Queue free St.	1.00	0.91
Step 2: LT from Major St.	4	1
Conflicting Flows	130	92
Potential Capacity	1425	1472
Pedestrian Impedance Factor	1.00	1.00
Movement Capacity	1425	1472
Probability of Queue free St.	1.00	0.96
Maj L-Shared Prob Q free St.	1.00	0.95
Step 3: TH from Minor St.	8	11
Conflicting Flows	320	352
Potential Capacity	590	548
Pedestrian Impedance Factor	1.00	1.00
Cap. Adj. factor due to Impeding mvmnt	0.95	0.95
Movement Capacity	562	522
Probability of Queue free St.	0.95	0.95
Step 4: LT from Minor St.	7	10
Conflicting Flows	374	333
Potential Capacity	576	591
Pedestrian Impedance Factor	1.00	1.00
Maj. L, Min T Impedance factor	0.90	0.91
Maj. L, Min T Adj. Imp Factor.	0.93	0.93
Cap. Adj. factor due to Impeding mvmnt	0.84	0.93
Movement Capacity	486	549

Worksheet 7-Computation of the Effect of Two-stage Gap Acceptance

Step 3: TH from Minor St.	8	11
Part 1 - First Stage		
Conflicting Flows		
Potential Capacity		
Pedestrian Impedance Factor		
Cap. Adj. factor due to Impeding mvmnt		
Movement Capacity		
Probability of Queue free St.		

Part 2 - Second Stage		
Conflicting Flows		
Potential Capacity		
Pedestrian Impedance Factor		
Cap. Adj. factor due to Impeding mvmnt		
Movement Capacity		
Part 3 - Single Stage		
Conflicting Flows	320	352
Potential Capacity	590	548
Pedestrian Impedance Factor	1.00	1.00
Cap. Adj. factor due to Impeding mvmnt	0.95	0.95
Movement Capacity	562	522
Result for 2 stage process:		
a		
y		
C t	562	522
Probability of Queue free St.	0.95	0.95
Step 4: LT from Minor St.	7	10
Part 1 - First Stage		
Conflicting Flows		
Potential Capacity		
Pedestrian Impedance Factor		
Cap. Adj. factor due to Impeding mvmnt		
Movement Capacity		
Part 2 - Second Stage		
Conflicting Flows		
Potential Capacity		
Pedestrian Impedance Factor		
Cap. Adj. factor due to Impeding mvmnt		
Movement Capacity		
Part 3 - Single Stage		
Conflicting Flows	374	333
Potential Capacity	576	591
Pedestrian Impedance Factor	1.00	1.00
Maj. L, Min T Impedance factor	0.90	0.91
Maj. L, Min T Adj. Imp Factor.	0.93	0.93
Cap. Adj. factor due to Impeding mvmnt	0.84	0.93
Movement Capacity	486	549
Results for Two-stage process:		
a		
y		
C t	486	549

Worksheet 8-Shared Lane Calculations

Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (vph)	92	27	0	0	27	81
Movement Capacity (vph)	486	562	947	549	522	923
Shared Lane Capacity (vph)		501			774	

Worksheet 9-Computation of Effect of Flared Minor Street Approaches

Movement	7 L	8 T	9 R	10 L	11 T	12 R
C sep	486	562	947	549	522	923
Volume	92	27	0	0	27	81
Delay						
Q sep						
Q sep +1						
round (Qsep +1)						
n max						
C sh		501			774	
SUM C sep						
n						
C act						

Worksheet 10-Delay, Queue Length, and Level of Service

Movement	1	4	7	8	9	10	11	12
Lane Config	LTR	LTR		LTR			LTR	
v (vph)	65	0		119			108	
C(m) (vph)	1472	1425		501			774	
v/c	0.04	0.00		0.24			0.14	
95% queue length	0.14	0.00		0.92			0.48	
Control Delay	7.6	7.5		14.4			10.4	
LOS	A	A		B			B	
Approach Delay				14.4			10.4	
Approach LOS				B			B	

Worksheet 11-Shared Major LT Impedance and Delay

	Movement 2	Movement 5
p(oj)	0.96	1.00
v(il), Volume for stream 2 or 5	65	92
v(i2), Volume for stream 3 or 6	65	0
s(il), Saturation flow rate for stream 2 or 5	1700	1700
s(i2), Saturation flow rate for stream 3 or 6	1700	1700
P*(oj)	0.95	1.00
d(M,LT), Delay for stream 1 or 4	7.6	7.5
N, Number of major street through lanes	1	1
d(rank,1) Delay for stream 2 or 5	0.4	0.0

HCS+: Unsignalized Intersections Release 5.6

TWO-WAY STOP CONTROL SUMMARY

Analyst: F. Ramirez
Agency/Co.: Moreland Altobelli
Date Performed: 5/9/2018
Analysis Time Period: 2042 PM
Intersection: E Solomon St at Jackson Ln
Jurisdiction: Spalding County
Units: U. S. Customary
Analysis Year: 2018
Project ID: 0015101
East/West Street: E Solomon St
North/South Street: Jackson Ln
Intersection Orientation: EW Study period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street: Approach	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume	45	95	135	5	60	0
Peak-Hour Factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Hourly Flow Rate, HFR	48	103	146	5	65	0
Percent Heavy Vehicles	5	--	--	4	--	--
Median Type/Storage	Undivided /					
RT Channelized?						
Lanes	0	1	0	0	1	0
Configuration		LTR			LTR	
Upstream Signal?		No			No	

Minor Street: Approach	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume	80	35	0	0	35	50
Peak Hour Factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Hourly Flow Rate, HFR	86	38	0	0	38	54
Percent Heavy Vehicles	1	1	1	7	7	7
Percent Grade (%)		0			0	
Flared Approach: Exists?/Storage		No /			No /	
Lanes	0	1	0	0	1	0
Configuration		LTR			LTR	

Delay, Queue Length, and Level of Service

Approach	EB	WB	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Config	LTR	LTR		LTR			LTR	
v (vph)	48	5		124			92	
C(m) (vph)	1518	1305		508			700	
v/c	0.03	0.00		0.24			0.13	
95% queue length	0.10	0.01		0.95			0.45	
Control Delay	7.4	7.8		14.4			10.9	
LOS	A	A		B			B	
Approach Delay				14.4			10.9	
Approach LOS				B			B	

HCS+: Unsignalized Intersections Release 5.6

Phone: Fax:
E-Mail:

TWO-WAY STOP CONTROL(TWSC) ANALYSIS

Analyst: F. Ramirez
Agency/Co.: Moreland Altobelli
Date Performed: 5/9/2018
Analysis Time Period: 2042 PM
Intersection: E Solomon St at Jackson Ln
Jurisdiction: Spalding County
Units: U. S. Customary
Analysis Year: 2018
Project ID: 0015101
East/West Street: E Solomon St
North/South Street: Jackson Ln
Intersection Orientation: EW Study period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street Movements	1 L	2 T	3 R	4 L	5 T	6 R
Volume	45	95	135	5	60	0
Peak-Hour Factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Peak-15 Minute Volume	12	26	37	1	16	0
Hourly Flow Rate, HFR	48	103	146	5	65	0
Percent Heavy Vehicles	5	--	--	4	--	--
Median Type/Storage	Undivided /					
RT Channelized?						
Lanes	0	1	0	0	1	0
Configuration	LTR			LTR		
Upstream Signal?	No			No		

Minor Street Movements	7 L	8 T	9 R	10 L	11 T	12 R
Volume	80	35	0	0	35	50
Peak Hour Factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Peak-15 Minute Volume	22	10	0	0	10	14
Hourly Flow Rate, HFR	86	38	0	0	38	54
Percent Heavy Vehicles	1	1	1	7	7	7
Percent Grade (%)		0			0	
Flared Approach: Exists?/Storage		No /			No /	
RT Channelized?						
Lanes	0	1	0	0	1	0
Configuration		LTR			LTR	

Pedestrian Volumes and Adjustments

Movements	13	14	15	16
Flow (ped/hr)	0	0	0	0

Lane Width (ft)	12.0	12.0	12.0	12.0
Walking Speed (ft/sec)	4.0	4.0	4.0	4.0
Percent Blockage	0	0	0	0

Upstream Signal Data

	Prog. Flow vph	Sat Flow vph	Arrival Type	Green Time sec	Cycle Length sec	Prog. Speed mph	Distance to Signal feet
S2 Left-Turn							
Through							
S5 Left-Turn							
Through							

Worksheet 3-Data for Computing Effect of Delay to Major Street Vehicles

	Movement 2	Movement 5
Shared ln volume, major th vehicles:	103	65
Shared ln volume, major rt vehicles:	146	0
Sat flow rate, major th vehicles:	1700	1700
Sat flow rate, major rt vehicles:	1700	1700
Number of major street through lanes:	1	1

Worksheet 4-Critical Gap and Follow-up Time Calculation

Critical Gap Calculation

Movement	1 L	4 L	7 L	8 T	9 R	10 L	11 T	12 R
t(c,base)	4.1	4.1	7.1	6.5	6.2	7.1	6.5	6.2
t(c,hv)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
P(hv)	5	4	1	1	1	7	7	7
t(c,g)			0.20	0.20	0.10	0.20	0.20	0.10
Percent Grade			0.00	0.00	0.00	0.00	0.00	0.00
t(3,lt)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
t(c,T): 1-stage	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2-stage	0.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
t(c) 1-stage	4.2	4.1	7.1	6.5	6.2	7.2	6.6	6.3
2-stage								

Follow-Up Time Calculations

Movement	1 L	4 L	7 L	8 T	9 R	10 L	11 T	12 R
t(f,base)	2.20	2.20	3.50	4.00	3.30	3.50	4.00	3.30
t(f,HV)	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
P(HV)	5	4	1	1	1	7	7	7
t(f)	2.2	2.2	3.5	4.0	3.3	3.6	4.1	3.4

Worksheet 5-Effect of Upstream Signals

Computation 1-Queue Clearance Time at Upstream Signal

	Movement 2		Movement 5	
	V(t)	V(l,prot)	V(t)	V(l,prot)
V prog				

Total Saturation Flow Rate, s (vph)								
Arrival Type								
Effective Green, g (sec)								
Cycle Length, C (sec)								
Rp (from Exhibit 16-11)								
Proportion vehicles arriving on green P								
g(q1)								
g(q2)								
g(q)								

Computation 2-Proportion of TWSC Intersection Time blocked	Movement 2		Movement 5	
	V(t)	V(l,prot)	V(t)	V(l,prot)
alpha				
beta				
Travel time, t(a) (sec)				
Smoothing Factor, F				
Proportion of conflicting flow, f				
Max platooned flow, V(c,max)				
Min platooned flow, V(c,min)				
Duration of blocked period, t(p)				
Proportion time blocked, p	0.000		0.000	

Computation 3-Platoon Event Periods	Result
p(2)	0.000
p(5)	0.000
p(dom)	
p(subo)	
Constrained or unconstrained?	

Proportion unblocked for minor movements, p(x)	(1) Single-stage Process	(2) Two-Stage Process Stage I	(3) Stage II
p(1)			
p(4)			
p(7)			
p(8)			
p(9)			
p(10)			
p(11)			
p(12)			

Computation 4 and 5 Single-Stage Process								
Movement	1 L	4 L	7 L	8 T	9 R	10 L	11 T	12 R
V c,x	65	249	393	347	176	366	420	65
s								
Px								
V c,u,x								
C r,x								
C plat,x								

Two-Stage Process				
	7	8	10	11

	Stage1	Stage2	Stage1	Stage2	Stage1	Stage2	Stage1	Stage2
V(c,x)								
s		1500		1500		1500		1500
P(x)								
V(c,u,x)								
C(r,x)								
C(plat,x)								

Worksheet 6-Impedance and Capacity Equations

Step 1: RT from Minor St.	9	12
Conflicting Flows	176	65
Potential Capacity	870	985
Pedestrian Impedance Factor	1.00	1.00
Movement Capacity	870	985
Probability of Queue free St.	1.00	0.95
Step 2: LT from Major St.	**4**	**1**
Conflicting Flows	249	65
Potential Capacity	1305	1518
Pedestrian Impedance Factor	1.00	1.00
Movement Capacity	1305	1518
Probability of Queue free St.	1.00	0.97
Maj L-Shared Prob Q free St.	1.00	0.96
Step 3: TH from Minor St.	**8**	**11**
Conflicting Flows	347	420
Potential Capacity	578	517
Pedestrian Impedance Factor	1.00	1.00
Cap. Adj. factor due to Impeding mvmnt	0.96	0.96
Movement Capacity	554	496
Probability of Queue free St.	0.93	0.92
Step 4: LT from Minor St.	**7**	**10**
Conflicting Flows	393	366
Potential Capacity	568	581
Pedestrian Impedance Factor	1.00	1.00
Maj. L, Min T Impedance factor	0.89	0.89
Maj. L, Min T Adj. Imp Factor.	0.91	0.92
Cap. Adj. factor due to Impeding mvmnt	0.86	0.92
Movement Capacity	490	534

Worksheet 7-Computation of the Effect of Two-stage Gap Acceptance

Step 3: TH from Minor St.	8	11
Part 1 - First Stage		
Conflicting Flows		
Potential Capacity		
Pedestrian Impedance Factor		
Cap. Adj. factor due to Impeding mvmnt		
Movement Capacity		
Probability of Queue free St.		

Part 2 - Second Stage		
Conflicting Flows		
Potential Capacity		
Pedestrian Impedance Factor		
Cap. Adj. factor due to Impeding mvmnt		
Movement Capacity		
Part 3 - Single Stage		
Conflicting Flows	347	420
Potential Capacity	578	517
Pedestrian Impedance Factor	1.00	1.00
Cap. Adj. factor due to Impeding mvmnt	0.96	0.96
Movement Capacity	554	496
Result for 2 stage process:		
a		
y		
C t	554	496
Probability of Queue free St.	0.93	0.92
Step 4: LT from Minor St.	7	10
Part 1 - First Stage		
Conflicting Flows		
Potential Capacity		
Pedestrian Impedance Factor		
Cap. Adj. factor due to Impeding mvmnt		
Movement Capacity		
Part 2 - Second Stage		
Conflicting Flows		
Potential Capacity		
Pedestrian Impedance Factor		
Cap. Adj. factor due to Impeding mvmnt		
Movement Capacity		
Part 3 - Single Stage		
Conflicting Flows	393	366
Potential Capacity	568	581
Pedestrian Impedance Factor	1.00	1.00
Maj. L, Min T Impedance factor	0.89	0.89
Maj. L, Min T Adj. Imp Factor.	0.91	0.92
Cap. Adj. factor due to Impeding mvmnt	0.86	0.92
Movement Capacity	490	534
Results for Two-stage process:		
a		
y		
C t	490	534

Worksheet 8-Shared Lane Calculations

Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (vph)	86	38	0	0	38	54
Movement Capacity (vph)	490	554	870	534	496	985
Shared Lane Capacity (vph)		508			700	

Worksheet 9-Computation of Effect of Flared Minor Street Approaches

Movement	7	8	9	10	11	12
	L	T	R	L	T	R
C sep	490	554	870	534	496	985
Volume	86	38	0	0	38	54
Delay						
Q sep						
Q sep +1						
round (Qsep +1)						
n max						
C sh		508			700	
SUM C sep						
n						
C act						

Worksheet 10-Delay, Queue Length, and Level of Service

Movement	1	4	7	8	9	10	11	12
Lane Config	LTR	LTR		LTR			LTR	
v (vph)	48	5		124			92	
C(m) (vph)	1518	1305		508			700	
v/c	0.03	0.00		0.24			0.13	
95% queue length	0.10	0.01		0.95			0.45	
Control Delay	7.4	7.8		14.4			10.9	
LOS	A	A		B			B	
Approach Delay				14.4			10.9	
Approach LOS				B			B	

Worksheet 11-Shared Major LT Impedance and Delay

	Movement 2	Movement 5
p(oj)	0.97	1.00
v(il), Volume for stream 2 or 5	103	65
v(i2), Volume for stream 3 or 6	146	0
s(il), Saturation flow rate for stream 2 or 5	1700	1700
s(i2), Saturation flow rate for stream 3 or 6	1700	1700
P*(oj)	0.96	1.00
d(M,LT), Delay for stream 1 or 4	7.4	7.8
N, Number of major street through lanes	1	1
d(rank,1) Delay for stream 2 or 5	0.3	0.0

Phone: Fax:
E-Mail:

ALL-WAY STOP CONTROL(AWSC) ANALYSIS

Analyst: F. Ramirez
Agency/Co.: Moreland Altobelli
Date Performed: 5/9/2018
Analysis Time Period: 2042 AM
Intersection: E Solomon at Jackson Ln
Jurisdiction: Spalding County
Units: U. S. Customary
Analysis Year: 2018
Project ID: 0015101
East/West Street: E Solomon St
North/South Street: Jackson Ln

Worksheet 2 - Volume Adjustments and Site Characteristics

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
Volume	60	60	60	0	85	0	85	25	0	0	25	75
% Thrus Left Lane												

	Eastbound		Westbound		Northbound		Southbound	
	L1	L2	L1	L2	L1	L2	L1	L2
Configuration	LTR		LTR		LTR		LTR	
PHF	0.92		0.92		0.92		0.92	
Flow Rate	195		92		119		108	
% Heavy Veh	7		7		6		18	
No. Lanes	1		1		1		1	
Opposing-Lanes	1		1		1		1	
Conflicting-lanes	1		1		1		1	
Geometry group	1		1		1		1	

Duration, T 0.25 hrs.

Worksheet 3 - Saturation Headway Adjustment Worksheet

	Eastbound		Westbound		Northbound		Southbound	
	L1	L2	L1	L2	L1	L2	L1	L2
Flow Rates:								
Total in Lane	195		92		119		108	
Left-Turn	65		0		92		0	
Right-Turn	65		0		0		81	
Prop. Left-Turns	0.3		0.0		0.8		0.0	
Prop. Right-Turns	0.3		0.0		0.0		0.8	
Prop. Heavy Vehicle	0.1		0.1		0.1		0.2	
Geometry Group	1		1		1		1	
Adjustments Exhibit 17-33:								
hLT-adj	0.2		0.2		0.2		0.2	

hRT-adj	-0.6	-0.6	-0.6	-0.6
hHV-adj	1.7	1.7	1.7	1.7
hadj, computed	-0.0	0.1	0.3	-0.1

Worksheet 4 - Departure Headway and Service Time

	Eastbound		Westbound		Northbound		Southbound	
	L1	L2	L1	L2	L1	L2	L1	L2
Flow rate	195		92		119		108	
hd, initial value	3.20	3.20	3.20	3.20	3.20	3.20	3.20	3.20
x, initial	0.17		0.08		0.11		0.10	
hd, final value	4.58		4.84		5.00		4.62	
x, final value	0.25		0.12		0.17		0.14	
Move-up time, m	2.0		2.0		2.0		2.0	
Service Time	2.6		2.8		3.0		2.6	

Worksheet 5 - Capacity and Level of Service

	Eastbound		Westbound		Northbound		Southbound	
	L1	L2	L1	L2	L1	L2	L1	L2
Flow Rate	195		92		119		108	
Service Time	2.6		2.8		3.0		2.6	
Utilization, x	0.25		0.12		0.17		0.14	
Dep. headway, hd	4.58		4.84		5.00		4.62	
Capacity	445		342		369		358	
Delay	9.08		8.52		8.99		8.37	
LOS	A		A		A		A	
Approach:								
Delay	9.08		8.52		8.99		8.37	
LOS	A		A		A		A	

Intersection Delay 8.81 Intersection LOS A

Phone: Fax:
E-Mail:

ALL-WAY STOP CONTROL(AWSC) ANALYSIS

Analyst: F. Ramirez
Agency/Co.: Moreland Altobelli
Date Performed: 5/9/2018
Analysis Time Period: 2042 PM
Intersection: E Solomon at Jackson Ln
Jurisdiction: Spalding County
Units: U. S. Customary
Analysis Year: 2018
Project ID: 0015101
East/West Street: E Solomon St
North/South Street: Jackson Ln

Worksheet 2 - Volume Adjustments and Site Characteristics

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
Volume	45	95	135	5	60	0	80	35	0	0	35	50
% Thrus Left Lane												

	Eastbound		Westbound		Northbound		Southbound	
	L1	L2	L1	L2	L1	L2	L1	L2
Configuration	LTR		LTR		LTR		LTR	
PHF	0.92		0.92		0.92		0.92	
Flow Rate	297		70		124		92	
% Heavy Veh	5		4		1		7	
No. Lanes	1		1		1		1	
Opposing-Lanes	1		1		1		1	
Conflicting-lanes	1		1		1		1	
Geometry group	1		1		1		1	

Duration, T 0.25 hrs.

Worksheet 3 - Saturation Headway Adjustment Worksheet

	Eastbound		Westbound		Northbound		Southbound	
	L1	L2	L1	L2	L1	L2	L1	L2
Flow Rates:								
Total in Lane	297		70		124		92	
Left-Turn	48		5		86		0	
Right-Turn	146		0		0		54	
Prop. Left-Turns	0.2		0.1		0.7		0.0	
Prop. Right-Turns	0.5		0.0		0.0		0.6	
Prop. Heavy Vehicle	0.0		0.0		0.0		0.1	
Geometry Group	1		1		1		1	
Adjustments Exhibit 17-33:								
hLT-adj	0.2		0.2		0.2		0.2	

hRT-adj	-0.6	-0.6	-0.6	-0.6
hHV-adj	1.7	1.7	1.7	1.7
hadj, computed	-0.2	0.1	0.2	-0.2

Worksheet 4 - Departure Headway and Service Time

	Eastbound		Westbound		Northbound		Southbound	
	L1	L2	L1	L2	L1	L2	L1	L2
Flow rate	297		70		124		92	
hd, initial value	3.20	3.20	3.20	3.20	3.20	3.20	3.20	3.20
x, initial	0.26		0.06		0.11		0.08	
hd, final value	4.37		4.89		5.04		4.71	
x, final value	0.36		0.10		0.17		0.12	
Move-up time, m	2.0		2.0		2.0		2.0	
Service Time	2.4		2.9		3.0		2.7	

Worksheet 5 - Capacity and Level of Service

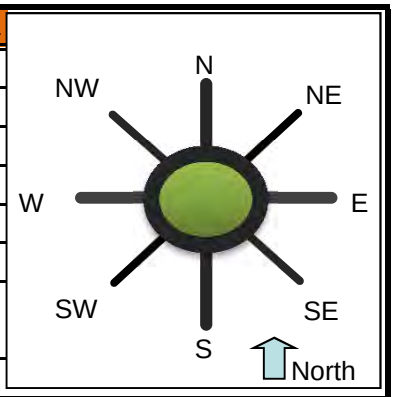
	Eastbound		Westbound		Northbound		Southbound	
	L1	L2	L1	L2	L1	L2	L1	L2
Flow Rate	297		70		124		92	
Service Time	2.4		2.9		3.0		2.7	
Utilization, x	0.36		0.10		0.17		0.12	
Dep. headway, hd	4.37		4.89		5.04		4.71	
Capacity	547		320		374		342	
Delay	9.81		8.40		9.10		8.35	
LOS	A		A		A		A	
Approach:								
Delay	9.81		8.40		9.10		8.35	
LOS	A		A		A		A	

Intersection Delay 9.26 Intersection LOS A

General & Site Information

v 4.1

Analyst:	F. Ramirez
Agency/Co:	Moreland Altobelli & Associates LLC
Date:	8/16/2018
Project or PI#:	0015101
Year, Peak Hour:	2042 AM
County/District:	Spalding County/District 3
Intersection Name:	E Solomon St at Jackson Ln



Volumes		Entry Legs (FROM) N (1)	NE (2)	E (3)	SE (4)	S (5)	SW (6)	W (7)	NW (8)
	N (1), vph			0		**25**		**60**	
Exit	NE (2), vph								
Legs	E (3), vph	0				0		**60**	
(TO)	SE (4), vph								
	S (5), vph	**25**		0				**60**	
	SW (6), vph								
	W (7), vph	**75**		**85**		**85**			
	NW (8), vph								
Output	Total Vehicles	100	0	85	0	110	0	180	0

Volume Characteristics	N	NE	E	SE	S	SW	W	NW
% Cars	82.5%	100.0%	93.5%	100.0%	94.0%	100.0%	93.5%	100.0%
% Heavy Vehicles	17.5%	0.0%	6.5%	0.0%	6.0%	0.0%	6.5%	0.0%
% Bicycle	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
# of Pedestrians **(ped/hr)**	0	0	0	0	0	0	0	0
PHF	*0.92*	*0.92*	*0.92*	*0.92*	*0.92*	*0.92*	*0.92*	*0.92*
F_{HV}	0.851	1.000	0.939	1.000	0.943	1.000	0.939	1.000
F_{ped}	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000

Entry/Conflicting Flows	N	NE	E	SE	S	SW	W	NW
Flow to Leg # N (1), pcu/h	0	0	0	0	29	0	69	0
NE (2), pcu/h	0	0	0	0	0	0	0	0
E (3), pcu/h	0	0	0	0	0	0	69	0
SE (4), pcu/h	0	0	0	0	0	0	0	0
S (5), pcu/h	32	0	0	0	0	0	69	0
SW (6), pcu/h	0	0	0	0	0	0	0	0
W (7), pcu/h	96	0	98	0	98	0	0	0
NW (8), pcu/h	0	0	0	0	0	0	0	0
Entry flow, pcu/h	128	0	98	0	127	0	208	0
Conflicting flow, pcu/h	196	0	196	0	139	0	32	0

Results: Approach Measures of Effectiveness

HCM 6th Edition	N	NE	E	SE	S	SW	W	NW
Entry Capacity, vph	961	NA	1061	NA	1130	NA	1254	NA
Entry Flow Rates, vph	109	NA	92	NA	120	NA	196	NA
V/C ratio	**0.11**		**0.09**		**0.11**		**0.16**	
Control Delay, sec/pcu	**5**		**4**		**4**		**4**	
LOS	A		A		A		A	
95th % Queue (ft)	**11**		**8**		**9**		**15**	

Notes: v 4.0

Unit Legend:
vph = vehicles per hour
PHF = peak hour factor
F_{HV} = heavy vehicle factor
pcu = passenger car unit

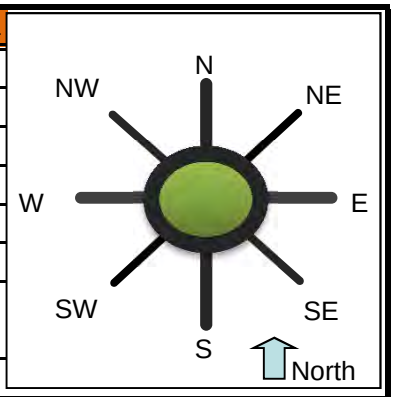
Bypass Lane Merge Point Analysis (if applicable)

Bypass Characteristics	Bypass #1	Bypass #2	Bypass #3	Bypass #4	Bypass #5	Bypass #6
Select Entry Leg from Bypass (FROM)						
Select Exit Leg for Bypass (TO)						
Does the bypass have a dedicated receiving lane?						
Volumes						
Right Turn Volume removed from Entry Leg						
Volume Characteristics (for entry leg)						
PHF						
F_{HV}						
F_{ped}						
NOTE: Volume Characteristics for Exit Leg are already taken into account						
Entry/Conflicting Flows						
Entry Flow, pcu/hr						
Conflicting Flow, pcu/hr						
Bypass Lane Results (HCM 6th Edition)						
Entry Capacity of Bypass, vph						
Flow Rates of Exiting Traffic, vph						
V/C ratio						
Control Delay, s/veh						
LOS						
95th % Queue (ft)						
Approach w/Bypass Delay, s/veh						
Approach w/Bypass LOS						

General & Site Information

v 4.1

Analyst:	F. Ramirez
Agency/Co:	Moreland Altobelli & Associates LLC
Date:	8/16/2018
Project or PI#:	0015101
Year, Peak Hour:	2042 PM
County/District:	Spalding County/District 3
Intersection Name:	E Solomon St at Jackson Ln



Volumes

		Entry Legs (FROM) N (1)	NE (2)	E (3)	SE (4)	S (5)	SW (6)	W (7)	NW (8)
	N (1), vph			0		**35**		**45**	
Exit	NE (2), vph								
Legs	E (3), vph	0				0		**95**	
(TO)	SE (4), vph								
	S (5), vph	**35**		**5**				**135**	
	SW (6), vph								
	W (7), vph	**50**		**60**		**80**			
	NW (8), vph								
Output	Total Vehicles	85	0	65	0	115	0	275	0

Volume Characteristics

	N	NE	E	SE	S	SW	W	NW
% Cars	93.5%	100.0%	96.0%	100.0%	99.0%	100.0%	95.5%	100.0%
% Heavy Vehicles	6.5%	0.0%	4.0%	0.0%	1.0%	0.0%	4.5%	0.0%
% Bicycle	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
# of Pedestrians **(ped/hr)**	0	0	0	0	0	0	0	0
PHF	*0.92*	*0.92*	*0.92*	*0.92*	*0.92*	*0.92*	*0.92*	*0.92*
F_{HV}	0.939	1.000	0.962	1.000	0.990	1.000	0.957	1.000
F_{ped}	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000

Entry/Conflicting Flows

	N	NE	E	SE	S	SW	W	NW
Flow to Leg # N (1), pcu/h	0	0	0	0	38	0	51	0
NE (2), pcu/h	0	0	0	0	0	0	0	0
E (3), pcu/h	0	0	0	0	0	0	108	0
SE (4), pcu/h	0	0	0	0	0	0	0	0
S (5), pcu/h	41	0	6	0	0	0	153	0
SW (6), pcu/h	0	0	0	0	0	0	0	0
W (7), pcu/h	58	0	68	0	88	0	0	0
NW (8), pcu/h	0	0	0	0	0	0	0	0
Entry flow, pcu/h	98	0	73	0	126	0	312	0
Conflicting flow, pcu/h	161	0	177	0	159	0	46	0

Results: Approach Measures of Effectiveness

HCM 6th Edition	N	NE	E	SE	S	SW	W	NW
Entry Capacity, vph	1099	NA	1107	NA	1162	NA	1260	NA
Entry Flow Rates, vph	92	NA	71	NA	125	NA	299	NA
V/C ratio	**0.08**		**0.06**		**0.11**		**0.24**	
Control Delay, sec/pcu	**4**		**4**		**4**		**5**	
LOS	A		A		A		A	
95th % Queue (ft)	**7**		**5**		**9**		**24**	

Notes: v 4.0

Unit Legend:
vph = vehicles per hour
PHF = peak hour factor
F_{HV} = heavy vehicle factor
pcu = passenger car unit

Bypass Lane Merge Point Analysis (if applicable)

Bypass Characteristics	Bypass #1	Bypass #2	Bypass #3	Bypass #4	Bypass #5	Bypass #6
Select Entry Leg from Bypass (FROM)						
Select Exit Leg for Bypass (TO)						
Does the bypass have a dedicated receiving lane?						
Volumes						
Right Turn Volume removed from Entry Leg						
Volume Characteristics (for entry leg)						
PHF						
F_{HV}						
F_{ped}						
NOTE: Volume Characteristics for Exit Leg are already taken into account						
Entry/Conflicting Flows						
Entry Flow, pcu/hr						
Conflicting Flow, pcu/hr						
Bypass Lane Results (HCM 6th Edition)						
Entry Capacity of Bypass, vph						
Flow Rates of Exiting Traffic, vph						
V/C ratio						
Control Delay, s/veh						
LOS						
95th % Queue (ft)						
Approach w/Bypass Delay, s/veh						
Approach w/Bypass LOS						

GDOT INTERSECTION CONTROL EVALUATION (ICE) TOOL

ICE Version 2.14 | Revised 08/03/2018

GDOT PI # (or N/A): 0015101 Request By: GDOT

County: Spalding GDOT District: 3 - Thomaston

Major (State) Road: Spalding St Speed Limit: 35 mph

Minor (Crossing) ST: Jackson Ln Ext Speed Limit: 35 mph

Major ST Direction: East/West Area Type: Urban

Intersection Control: Conventional (All-Way Stop)

Prepared By: Moreland Altobelli Analyst: F. Ramirez

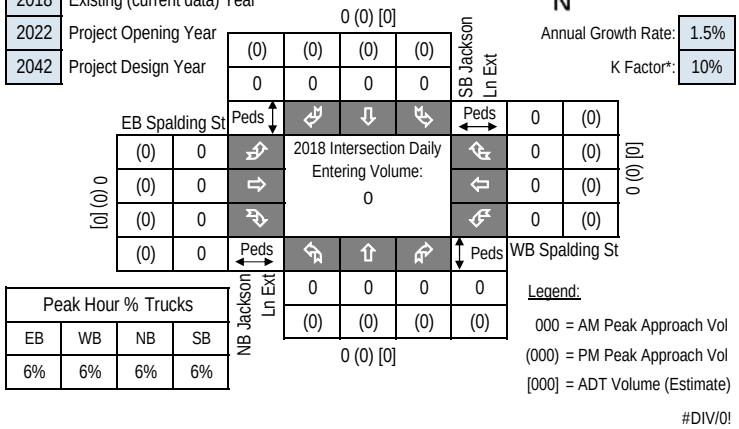
Date: 8/17/2018 Project ID:

Project Purpose: Intersection Improvement

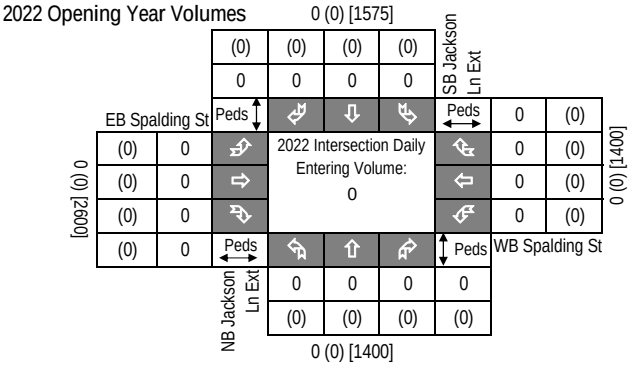
2018	Existing (current data) Year
2022	Project Opening Year
2042	Project Design Year

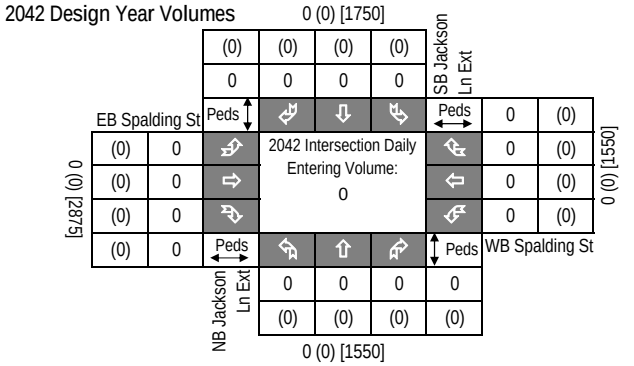
Annual Growth Rate: 1.5%

K Factor*: 10%



Peak Hour % Trucks			
EB	WB	NB	SB
6%	6%	6%	6%





Introduction: In 2005, SAFETEA-LU established the Highway Safety Improvement Program (HSIP) and mandated that each state prepare a Strategic Highway Safety Plan (SHSP) to prioritize safety funding investments. Intersections quickly became a common component of most states' SHSP emphasis areas and HSIP project lists, including Georgia's SHSP. Intersection Control Evaluation (ICE) policies and procedures represent a traceable and transparent procedure to streamline the evaluation of intersection control alternatives, and further leverage safety advancements for intersection improvements beyond just the safety program. Approximately one-third of all traffic fatalities and roughly seventy five percent of all traffic crashes in Georgia occur at or adjacent to intersections. Accordingly, the Georgia SHSP includes an emphasis on enhancing intersection safety to advance the *Toward Zero Deaths* vision embraced by the Georgia Governor's Office of Highway Safety (GOHS). This ICE tool was developed to support the ICE policy, developed and adopted to help ensure that intersection investments across the entire Georgia highway system are selected, prioritized and implemented with defensible benefits for safety towards those ends.

Tool Goal: The goal of this ICE tool is to provide a simplified and consistent way of importing traffic, safety, cost, environmental impact and stakeholder posture data to assess and quantify intersection control improvement benefits. The tool supports the ICE policy and procedures to provide traceability, transparency, consistency and accountability when identifying and selecting an intersection control solution that both meets project purpose and reflects overall best value in terms of specific performance-based criteria.

Requirements: An ICE is required for any intersection improvement (e.g. new or modified intersection, widening/reconstruction or corridor project, or work accomplished through a driveway or encroachment permit that affects an intersection) where: 1) the intersection includes at least one roadway designated as a State Route (State Highway System) or as part of the National Highway System; or 2) the intersection will be designed or constructed using State or Federal funding. In certain circumstances where an ICE would otherwise be required, the requirement may be waived based on appropriate evidence presented with a written request. (See the "Waiver" tab to review criteria that may make a project waiver eligible and for instructions to submit a waiver request to the Department). An ICE is not required when the proposed work does not include any changes to the intersection design, involves only routine traffic signal timing and equipment maintenance, or for driveway permits where the driveway is not a new leg to an already existing intersection on either 1) a divided, multi-lane highway with a closed median and only right-in/right-out access or 2) an undivided roadway where the development is not required to construct left and/or right turn lanes (as per the Driveway Manual and District Traffic Engineer).

Two-Stage Process: A complete ICE process consists of two (2) distinct stages, and it is expected that the respective level of effort for completing both stages of ICE will correspond to the magnitude and complexity of the intersection. Prior to starting an ICE, the District Traffic Engineer and/or State Traffic Engineer should be consulted for advice on an appropriate level of effort. The Stage 1 and Stage 2 ICE forms are designed minimize required data inputs using drop-down menu choices and limiting text entry. All fields shaded grey include drop down menu choices and all fields shaded blue require data entry. All other cells in the worksheet are locked.

Stage 1: Screening Decision Record Stage 1 should be conducted early in the project development process and is intended to inform which alternatives are worthy of further evaluation in Stage 2. Stage 1 serves as a screening effort meant to *eliminate* non-competitive options and identify which alternatives merit further considerations based on their practical feasibility. Users should use good engineering judgement in responding to the seven policy questions by selecting "Yes" or "No" in the drop-down boxes. Alternatives should not be summarily eliminated without due consideration, and reasons for eliminating or advancing an alternative should be documented in the "Screening Decision Justification" column.

Stage 2: Alternative Selection Decision Record Stage 2 involves a more detailed and familiar evaluation of the alternatives identified in Stage 1 in order to support the selection of a preferred alternative that may be advanced to detailed design. Stage 2 data entry may require the use of external analysis tools to determine costs, operations and/or safety data that, combined with environmental and stakeholder posture data, form the basis of the ICE evaluation. A separate "CostEst" worksheet tab helps users develop pre-planning-level cost estimates for each Stage 2 alternative evaluated, and a separate Users Guide has been prepared to give guidance on Stage 1 and Stage 2 data entry. Once all data is entered, each alternative is scored and ranked, with the results reported at the bottom of the Stage 2 worksheet to inform on the best of the intersection controls evaluated for project recommendation.

Documentation: A complete ICE document consists of the combination of the outputs from either a completed and signed waiver form or both Stage 1 and Stage 2 worksheets (along with supporting costing and/or environmental documentation), to be included in the approved project Concept Report (or equivalent) or as a stand-alone document.

GDOT ICE STAGE 1: SCREENING DECISION RECORD

ICE Version 2.14 | Revised 08/03/2018

GDOT PI #	0015101
Project Location:	Spalding St @ Jackson Ln Ext
Prepared by:	Moreland Altobelli
Analyst:	F. Ramirez
Date:	8/17/2018

Answer "Yes" or "No" to each policy question for each control type to identify which alternatives should be evaluated in the Stage 2 Decision Record; enter justification in the rightmost column

Note: Up to 5 alternatives may be selected and evaluated; Use this ICE Stage 1 to screen 5 or fewer alternatives to evaluate in Stage 2

	Intersection Alternative (see "Intersections" tab for detailed description of intersection/interchange type)	1. Does alternative address the project need in a balanced manner and in scale with the project?	2. Does alternative improve safety performance in terms of reducing severe crashes?	3. Does alternative incorporate safety, convenience and accessibility for pedestrians and/or bicyclists?	4. Does alternative improve (or preserve) traffic operations (congestion, delay, reliability, etc.)?	5. Does alternative appear feasible given the site characteristics, constrains & location context?	6. Does alternative appear feasible with respect to other project factors?	7. Overall feasible alternative (select alternative for further evaluation in Stage 2)?	Screening Decision Justification:
Unsignalized Intersections	Conventional (Minor Stop)	Yes	No	No	Yes	Yes	Yes	Yes	Potential solution to evaluate
	Conventional (All-Way Stop)	Yes	Yes	Yes	Yes	Yes	Yes	No	AWSC warrants not met
	Mini Roundabout	Yes	Yes	No	Yes	Yes	No	No	High truck volumes are expected at this intersection - UPS facility nearby
	Single Lane Roundabout	Yes	Yes	No	Yes	Yes	No	No	Significant impacts to properties in Historic District
	Multilane Roundabout	No	Yes	No	Yes	No	No	No	Spalding St & Jackson Ln Ext are two-lane roadways
	RCUT (stop control)	No	Yes	Yes	Yes	No	No	No	A median is not being proposed as part of this project
	RIRO w/down stream U-Turn	No	Yes	Yes	Yes	No	No	No	A median is not being proposed as part of this project
	High-T (unsignalized)	No	No	No	Yes	No	No	No	Spalding St will become a dead end near the Jackson Ln Exension
	Offset-T Intersections	No	Yes	Yes	No	No	No	No	Significant impact to ROW cost - Low traffic volumes
	Diamond Interch (Stop Control)	No	No	No	No	No	No	No	Alternative not applicable
	Diamond Interch (RAB Control)	No	No	No	No	No	No	No	Alternative not applicable
	No LT Lane Improvements No RT Lane Improvements	No	No	No	No	No	No	No	N/A
	Other unignalized (provide description):	No	No	No	No	No	No	No	Likely not meet signal warrants
Signalized Intersections	Traffic Signal	No	No	No	No	No	No	No	Likely not meet signal warrants
	Median U-Turn (Indirect Left)	No	No	No	No	No	No	No	Likely not meet signal warrants
	RCUT (signalized)	No	No	No	No	No	No	No	Likely not meet signal warrants
	Displaced Left Turn (CFI)	No	No	No	No	No	No	No	Likely not meet signal warrants
	Continuous Green-T	No	No	No	No	No	No	No	Likely not meet signal warrants
	Jughandle	No	No	No	No	No	No	No	Likely not meet signal warrants
	Quadrant Roadway	No	No	No	No	No	No	No	Likely not meet signal warrants
	Diamond Interch (Signal Control)	No	No	No	No	No	No	No	Likely not meet signal warrants
	Diverging Diamond	No	No	No	No	No	No	No	Likely not meet signal warrants
	Single Point Interchange	No	No	No	No	No	No	No	Likely not meet signal warrants
	No LT Lane Improvements No RT Lane Improvements	No	No	No	No	No	No	No	N/A
	Other Signalized (provide description):	No	No	No	No	No	No	No	N/A

☐ = Intersection type selected for more detailed analysis in Stage 2 Alternative Selection Decision Record

GDOT ICE STAGE 2: ALTERNATIVE SELECTION DECISION RECORD

ICE Version 2.14 | Revised 08/03/2018

GDOT PI # (or N/A): 0015101 | GDOT District: 3 - Thomaston | Date: 8/17/2018
County: Spalding | Area Type: Urban | Agency/Firm: Moreland Altobelli
Project Location: Spalding St @ Jackson Ln Ext | Analyst: F. Ramirez
Existing Intersection Control: Conventional (All-Way Stop) | Type of Analysis: Conventional Non-Safety Funded Project

Opening / Design Year Traffic Operations

Intersection meets signal/AWS warrants?	None	
Traffic Analysis Measure of Effectiveness	Network Delay	
Traffic Analysis Software Used	Other (explain below)	
Analysis Time Period	AM Peak Hr	PM Peak Hr
2022 Open Yr No-Build Peak Hr Network Delay	7.3 sec	8.0 sec
2042 Design Yr No-Build Peak Hr Network Delay	7.8 sec	8.0 sec

Complete Streets Warrants Met?
- ☐ PEDESTRIANS
- ☐ BICYCLES
- ☐ TRANSIT

Crash Type (Crash Data: Enter 5 most recent years of intersection crash data)	Crash Severity: PDO	Injury Crash*	Fatal Crash*	
Angle	3	0	0	38%
Head-On	0	0	0	0%
Rear End	3	0	0	38%
Sideswipe - same	1	0	0	13%
Sideswipe - opposite	0	0	0	0%
Not Collision w/Motor Veh	1	0	0	13%
TOTALS:	8	0	0	8

* Number of crashes resulting in injuries / fatalities, not number of persons

Alternatives Analysis:	Alternative 1	Alternative 2	Alternative 3	Alternative 4	Alternative 5
Proposed Control Type/Improvement:	Conventional (Minor Stop)	N/A	N/A	N/A	N/A
Project Cost: (From CostEst Worksheet)	*Additional description here*				
Construction Cost	$0	#N/A			
ROW Cost	$1,015,000	#N/A			
Environmental Cost	$0	#N/A			
Reimbursable Utility Cost	$2,833,633	#N/A			
Design & Contingency Cost	$0	#N/A			
Cost Adjustment (justification req'd)	0%				
Total Cost	$3,848,633	#N/A			
Traffic Operations:	*User Cost Override*				
Traffic Analysis Software Used	HCS 2010	--select one--			
Analysis Period	AM Peak Hr / PM Peak Hr	AM Peak Hr / PM Peak Hr			
2042 Design Yr Build Network Delay	9.3 sec / 9.8 sec				
Safety Analysis:					
Predefined CRF: PDO	0%				
Predefined CRF: Fatal/Inj	0%				
Predefined CRF Source:	N/A	N/A			
User Defined CRF: PDO					
User Defined CRF: Fatal/Inj					
User Defined CRF Source (write in if applicable):					
Environmental Impacts:[1]					
Historic District/Property	Minimal	None			
Archaeology Resources	None	None			
Graveyard	None	None			
Stream	None	None			
Underground Tank/Hazmat	None	None			
Park Land	None	None			
EJ Community	None	None			
Wooded Area	None	None			
Wetland	None	None			
Stakeholder Posture:	*Note: If environmental impact is significant (**RED**), provide justification impact won't jeopardize project delivery using "Env" worksheet*				
	[1] *Environmental impacts are only preliminary estimates; detailed environmental impact documentation will be included with project concept report*				
Local Community Support	Neutral	Neutral			
GDOT Support	Neutral	Neutral			
Final ICE Stage 2 Score:	#N/A	-			
Rank of Control Type Alternatives:	#N/A	-			

Note: Stage 2 score is not given (shown as "-") if signal or AWS is selected as control type but respective warrants are not met

Provide additional comments and/or explain any unique analysis inputs, or results (as necessary): The No-Build condition was analyzed using SimTraffic. See cost estimate of the preferred alternative.

GDOT ICE TOOL: COST ESTIMATING AID

ICE Version 2.14 | Revised 08/03/2018

Project Information

Location: Spalding St @ Jackson Ln Ext
County: Spalding
Date: 8/17/2018
GDOT PI # (or N/A): 0015101
Area Type: Urban
Agency/Firm: Moreland Altobelli
Existing Intersection Control: Conventional (All-Way Stop)
GDOT District: 3 - Thomaston
Analyst: F. Ramirez
Type of Analysis: Conventional Non-Safety Funded Project
Major Street Direction: East/West

Table 1: Existing Conditions

	EB Spalding St			WB Spalding St			NB Jackson Ln Ext			SB Jackson Ln Ext		
Movement	Left Turn	Thru	Right Turn	Left Turn	Thru	Right Turn	Left Turn	Thru	Right Turn	Left Turn	Thru	Right Turn
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0
Lane Widths*	0'	12'	0'	0'	12'	0'	0'	12'	0'	0'	12'	0'
Bay Length**	0'		0'	0'		0'	0'		0'	0'		0'
Median Width												
Right-of-Way	40'						40'					

Table 2: Proposed Conditions

	Conventional (Minor Stop)	N/A	N/A	N/A	N/A
Proposed Pavement Type	F.D. Asphalt	F.D. Asphalt	F.D. Asphalt	F.D. Asphalt	None
Reimbursable Utility:	Moderate	Moderate	Moderate	Moderate	Moderate
# of Driveway(s) Impacted	0	0	0	0	0
Modify/Replace Traffic Signal	0	0	0	0	0
Lighting Poles (ea)	0	0	0	0	0
Flashing Beacons (ea)	0	0	0	0	0
RFB/PHB Ped Crossings (ea)	0	0	0	0	0
New/Replace Sidewalks (LF)	0'	0'	0'	0'	0'
New/Replace Cross Drains (LF)	0'	0'	0'	0'	0'
New/Replace Guardrail (LF)	0'	0'	0'	0'	0'
New Retaining Wall (LF)	0'	0'	0'	0'	0'
Bridge:New/Widen/Replace (sqft)	0	0	0	0	0
Add'l ROW/Easements/Demolition	$0	$0	$0	$0	$0

Site Context

Topography:	Level
Traffic Mgmt Plan:	Maintain Traffic
Project Size:	Single Intersection

Cost Multipliers

Grading Complete:	15%
Reimbursable Utility:	5%
Traffic Control:	20%
Project Size:	0%
Prelim Engineering:	15%
Project Contingency:	20%

Intersections

Signal Poles	Mast Arm
Design Vehicle	WB-67
Existing Interchange?	No

Roundabouts

Inscribed DIA - Mini	80
Inscribed DIA - Single	140
Inscribed DIA - Multi	200
Circulating Lane Width	18

ROW Costs

Prevalent ROW Type:	Mixed (Average)
ROW Cost/Acre:	$128,625
ROW Multiplier:	1.6

Table 3: Control Type Cost Breakdown

Pay Item	Per Ln Mi Unit Cost	Unit Cost	Conventional (Minor Stop) Quantity	Conventional (Minor Stop) Cost	N/A Quantity	N/A Cost	N/A Quantity	N/A Cost	N/A Quantity	N/A Cost	N/A Quantity	N/A Cost
New Construction (Base & Pave)	$500K/LM	$9.47/sqft	0	$0	#N/A	#N/A						
Roadway Mill and Overlay	$64K/LM	$1.21/sqft	0	$0	#N/A	#N/A						
Urban C&G/Drainage - both sides	441-6720	$19.08/LF	0	$0	#N/A	#N/A						
Rural Typ Drainage - both sides	$150K/LM	$2.84/LF	0	$0	#N/A	#N/A						
Concrete Island (sqyd)	n/a	$51.58/syd	0	$0	#N/A	#N/A						
Median Landscaping	$100K/LM	$1.89/LF	0	$0	#N/A	#N/A						
Typical Driveways Impacted (ea)	n/a	$7,500 ea	0	$0	#N/A	#N/A						
Typical E&S Control Temp/Perm	$150K/LM	$34.09/LF	0	$0	#N/A	#N/A						
Roundabout Truck Apron (sqft)	n/a	$10.25/sqft	0	$0	#N/A	#N/A						
Signing & Marking	$0	$22.73/LF	0	$0	#N/A	#N/A						
Flashing Beacon (ea)	n/a	$20,000 ea	0	$0	#N/A	#N/A						
New Traffic Signal (Mast Arms)	674-1000	$182,575ea	0	$0	#N/A	#N/A						
Lighting (per pole)	n/a	$5,607 ea	0	$0	#N/A	#N/A						
Signalized Ped Crossings (ea)	n/a	$19,637 ea	0	$0	#N/A	#N/A						
6' Sidewalk (LF)	n/a	$49.23/LF	0	$0	#N/A	#N/A						
New/replace cross drains (LF)	n/a	$41.31/LF	0	$0	#N/A	#N/A						
Typical Guardrail (LF)	n/a	$65.56/LF	0	$0	#N/A	#N/A						
Retaining Wall (LF)	n/a	$808.52/LF	0	$0	#N/A	#N/A						
Bridge widen/replace (SF)	n/a	$210/sqft	0	$0	#N/A	#N/A						
Env Costs (from Stage 2 impacts)	n/a	n/a	0	$0	#N/A	#N/A						
Grading Complete - 15%	n/a	n/a		$0		#N/A						
Traffic Control - 20%	n/a	n/a		$0		#N/A						
Reimbrusable Utility	n/a	n/a		$0		#N/A						
Preliminary Engineering - 15%	n/a	n/a		$0		#N/A						
Contigency - 20%	n/a	n/a		$0		#N/A						
ROW Cost/Acre: Mixed (Average)	n/a	$128,625ac		$0		#N/A						
Add'l ROW / Displacement / Demo	n/a	n/a		$0		#N/A						
ROW Multiplier - 1.6	n/a	n/a		$0		#N/A						
Project Scale Reduction - 0.0%	n/a	n/a		$0		#N/A						
Grand Total Costs				$0		#N/A						

Table 4: Assumption Adjustments/Quantity Overrides

Alternative Evaluated	Assumptions:	Pavement	Calculated ROW (ac)	User Override*	Calculated Pavement	User Override*	Major ST Const Limits	User Override*	Minor ST Const Limits	User Override*
Conventional (Minor Stop)	N/A	F.D. Asphalt	0.00	0.0	0	13,906.0	70	200.0	70	200.0
N/A	#N/A	F.D. Asphalt	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
N/A	#N/A	F.D. Asphalt	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
N/A	#N/A	F.D. Asphalt	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
N/A	#N/A	None	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A

1: Searcy Ave. & E. Solmon St./E. Solomon St. Performance by movement

Movement	EBT	EBR	WBL	WBT	NBL	NBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.2	0.1	0.0	0.0	0.1	0.2	0.1
Total Delay (hr)	0.2	0.0	0.0	0.1	0.1	0.1	0.5
Total Del/Veh (s)	6.7	3.4	1.1	1.8	5.5	3.3	3.5

2: Spalding St./N. Searcy Ave. & E. Solomon St. Performance by movement

Movement	EBL	EBT	EBR	WBT	WBR	NBL	NBT	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0	0.2	0.1	0.1	0.2	0.1
Total Delay (hr)	0.0	0.0	0.0	0.3	0.0	0.1	0.0	0.5
Total Del/Veh (s)	0.9	1.4	0.8	7.2	2.6	5.0	7.0	4.4

Total Network Performance

Denied Delay (hr)	0.0
Denied Del/Veh (s)	0.2
Total Delay (hr)	1.0
Total Del/Veh (s)	7.3

1: Searcy Ave. & E. Solmon St./E. Solomon St. Performance by movement

Movement	EBT	EBR	WBL	WBT	NBL	NBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.4	0.4	0.0	0.0	0.1	0.2	0.2
Total Delay (hr)	0.4	0.1	0.0	0.1	0.1	0.0	0.7
Total Del/Veh (s)	8.0	4.6	1.0	1.6	6.0	3.4	4.7

2: Spalding St./N. Searcy Ave. & E. Solomon St. Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	NBL	NBT	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0	0.1	0.2	0.1	0.2	0.1
Total Delay (hr)	0.0	0.1	0.0	0.0	0.2	0.1	0.1	0.5
Total Del/Veh (s)	1.3	2.0	0.9	6.6	6.8	5.6	7.1	4.0

Total Network Performance

Denied Delay (hr)	0.0
Denied Del/Veh (s)	0.2
Total Delay (hr)	1.3
Total Del/Veh (s)	8.0

1: Searcy Ave. & E. Solmon St./E. Solomon St. Performance by lane

Lane	EB	WB	NB	All
Movements Served	TR	LT	LR	
Denied Del/Veh (s)				0.1
Total Del/Veh (s)	6.3	1.6	4.9	3.8

2: Spalding St./N. Searcy Ave. & E. Solomon St. Performance by lane

Lane	EB	WB	NB	All
Movements Served	LTR	LTR	LTR	
Denied Del/Veh (s)				0.1
Total Del/Veh (s)	1.3	7.2	6.4	4.7

Total Network Performance

Denied Del/Veh (s)	0.2
Total Del/Veh (s)	7.8

1: Searcy Ave. & E. Solmon St./E. Solomon St. Performance by lane

Lane	EB	WB	NB	All
Movements Served	TR	LT	LR	
Denied Del/Veh (s)				0.2
Total Del/Veh (s)	7.3	1.4	4.8	5.0

2: Spalding St./N. Searcy Ave. & E. Solomon St. Performance by lane

Lane	EB	WB	NB	All
Movements Served	LTR	LTR	LTR	
Denied Del/Veh (s)				0.1
Total Del/Veh (s)	1.4	6.7	6.2	3.6

Total Network Performance

Denied Del/Veh (s)	0.2
Total Del/Veh (s)	8.0

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TWO-WAY STOP CONTROL SUMMARY

Analyst: F.Ramirez
Agency/Co.: Moreland Altobelli
Date Performed: 8/17/2018
Analysis Time Period: 2042 AM Peak
Intersection: Spalding St at Jackson Ln Ext
Jurisdiction: Spalding County
Units: U. S. Customary
Analysis Year: 2018
Project ID: 0015101
East/West Street: Spalding St
North/South Street: Jackson Ln Ext
Intersection Orientation: EW Study period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street: Approach	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume	0	0			0	110
Peak-Hour Factor, PHF	0.92	0.92			0.92	0.92
Hourly Flow Rate, HFR	0	0			0	119
Percent Heavy Vehicles	0	--	--		--	--
Median Type/Storage	Undivided		/			
RT Channelized?						
Lanes	0	1			1	0
Configuration		LT				TR
Upstream Signal?		No			No	

Minor Street: Approach	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume				85		0
Peak Hour Factor, PHF				0.92		0.92
Hourly Flow Rate, HFR				92		0
Percent Heavy Vehicles				6		6
Percent Grade (%)		0			0	
Flared Approach: Exists?/Storage			/			No /
Lanes				0		0
Configuration					LR	

Delay, Queue Length, and Level of Service

Approach	EB	WB	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Config	LT						LR	
v (vph)	0						92	
C(m) (vph)	1482						937	
v/c	0.00						0.10	
95% queue length	0.00						0.33	
Control Delay	7.4						9.3	
LOS	A						A	
Approach Delay							9.3	
Approach LOS							A	

HCS+: Unsignalized Intersections Release 5.6

Phone: Fax:
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TWO-WAY STOP CONTROL(TWSC) ANALYSIS

Analyst: F.Ramirez
Agency/Co.: Moreland Altobelli
Date Performed: 8/17/2018
Analysis Time Period: 2042 AM Peak
Intersection: Spalding St at Jackson Ln Ext
Jurisdiction: Spalding County
Units: U. S. Customary
Analysis Year: 2018
Project ID: 0015101
East/West Street: Spalding St
North/South Street: Jackson Ln Ext
Intersection Orientation: EW Study period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street Movements	1 L	2 T	3 R	4 L	5 T	6 R
Volume	0	0			0	110
Peak-Hour Factor, PHF	0.92	0.92			0.92	0.92
Peak-15 Minute Volume	0	0			0	30
Hourly Flow Rate, HFR	0	0			0	119
Percent Heavy Vehicles	0	--	--		--	--
Median Type/Storage	Undivided			/		
RT Channelized?						
Lanes	0	1			1	0
Configuration		LT				TR
Upstream Signal?		No			No	

Minor Street Movements	7 L	8 T	9 R	10 L	11 T	12 R
Volume				85		0
Peak Hour Factor, PHF				0.92		0.92
Peak-15 Minute Volume				23		0
Hourly Flow Rate, HFR				92		0
Percent Heavy Vehicles				6		6
Percent Grade (%)		0			0	
Flared Approach: Exists?/Storage				/		No /
RT Channelized?						
Lanes				0		0
Configuration					LR	

Pedestrian Volumes and Adjustments

Movements	13	14	15	16
Flow (ped/hr)	0	0	0	0

Lane Width (ft)	12.0	12.0	12.0	12.0
Walking Speed (ft/sec)	4.0	4.0	4.0	4.0
Percent Blockage	0	0	0	0

Upstream Signal Data

	Prog. Flow vph	Sat Flow vph	Arrival Type	Green Time sec	Cycle Length sec	Prog. Speed mph	Distance to Signal feet
S2 Left-Turn							
Through							
S5 Left-Turn							
Through							

Worksheet 3-Data for Computing Effect of Delay to Major Street Vehicles

	Movement 2	Movement 5
Shared ln volume, major th vehicles:	0	
Shared ln volume, major rt vehicles:	0	
Sat flow rate, major th vehicles:	1700	
Sat flow rate, major rt vehicles:	1700	
Number of major street through lanes:	1	

Worksheet 4-Critical Gap and Follow-up Time Calculation

Critical Gap Calculation

Movement	1 L	4 L	7 L	8 T	9 R	10 L	11 T	12 R
t(c,base)	4.1					7.1		6.2
t(c,hv)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
P(hv)	0					6		6
t(c,g)			0.20	0.20	0.10	0.20	0.20	0.10
Percent Grade			0.00	0.00	0.00	0.00	0.00	0.00
t(3,lt)	0.00					0.70		0.00
t(c,T): 1-stage	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2-stage	0.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
t(c) 1-stage	4.1					6.5		6.3
2-stage								

Follow-Up Time Calculations

Movement	1 L	4 L	7 L	8 T	9 R	10 L	11 T	12 R
t(f,base)	2.20					3.50		3.30
t(f,HV)	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
P(HV)	0					6		6
t(f)	2.2					3.6		3.4

Worksheet 5-Effect of Upstream Signals

Computation 1-Queue Clearance Time at Upstream Signal

	Movement 2		Movement 5	
	V(t)	V(l,prot)	V(t)	V(l,prot)
V prog				

Total Saturation Flow Rate, s (vph)	
Arrival Type	
Effective Green, g (sec)	
Cycle Length, C (sec)	
Rp (from Exhibit 16-11)	
Proportion vehicles arriving on green P	
g(q1)	
g(q2)	
g(q)	

Computation 2-Proportion of TWSC Intersection Time blocked	Movement 2		Movement 5	
	V(t)	V(l,prot)	V(t)	V(l,prot)
alpha				
beta				
Travel time, t(a) (sec)				
Smoothing Factor, F				
Proportion of conflicting flow, f				
Max platooned flow, V(c,max)				
Min platooned flow, V(c,min)				
Duration of blocked period, t(p)				
Proportion time blocked, p	0.000		0.000	

Computation 3-Platoon Event Periods	Result
p(2)	0.000
p(5)	0.000
p(dom)	
p(subo)	
Constrained or unconstrained?	

Proportion unblocked for minor movements, p(x)	(1) Single-stage Process	(2) Two-Stage Process Stage I	(3) Stage II
p(1)			
p(4)			
p(7)			
p(8)			
p(9)			
p(10)			
p(11)			
p(12)			

Computation 4 and 5 Single-Stage Process								
Movement	1 L	4 L	7 L	8 T	9 R	10 L	11 T	12 R
V c,x	119					60		60
s								
Px								
V c,u,x								
C r,x								
C plat,x								

Two-Stage Process				
	7	8	10	11

	Stage1	Stage2	Stage1	Stage2	Stage1	Stage2	Stage1	Stage2
V(c,x)								
s						1500		
P(x)								
V(c,u,x)								
C(r,x)								
C(plat,x)								

Worksheet 6-Impedance and Capacity Equations

Step 1: RT from Minor St.					9		12	
Conflicting Flows							60	
Potential Capacity							994	
Pedestrian Impedance Factor					1.00		1.00	
Movement Capacity							994	
Probability of Queue free St.					1.00		1.00	
Step 2: LT from Major St.					4		1	
Conflicting Flows							119	
Potential Capacity							1482	
Pedestrian Impedance Factor					1.00		1.00	
Movement Capacity							1482	
Probability of Queue free St.					1.00		1.00	
Maj L-Shared Prob Q free St.							1.00	
Step 3: TH from Minor St.					8		11	
Conflicting Flows								
Potential Capacity								
Pedestrian Impedance Factor					1.00		1.00	
Cap. Adj. factor due to Impeding mvmnt					1.00		1.00	
Movement Capacity								
Probability of Queue free St.					1.00		1.00	
Step 4: LT from Minor St.					7		10	
Conflicting Flows							60	
Potential Capacity							937	
Pedestrian Impedance Factor					1.00		1.00	
Maj. L, Min T Impedance factor					1.00			
Maj. L, Min T Adj. Imp Factor.					1.00			
Cap. Adj. factor due to Impeding mvmnt					1.00		1.00	
Movement Capacity							937	

Worksheet 7-Computation of the Effect of Two-stage Gap Acceptance

Step 3: TH from Minor St.					8		11	
Part 1 - First Stage								
Conflicting Flows								
Potential Capacity								
Pedestrian Impedance Factor								
Cap. Adj. factor due to Impeding mvmnt								
Movement Capacity								
Probability of Queue free St.								

Part 2 - Second Stage						
Conflicting Flows						
Potential Capacity						
Pedestrian Impedance Factor						
Cap. Adj. factor due to Impeding mvmnt						
Movement Capacity						
Part 3 - Single Stage						
Conflicting Flows						
Potential Capacity						
Pedestrian Impedance Factor			1.00		1.00	
Cap. Adj. factor due to Impeding mvmnt			1.00		1.00	
Movement Capacity						
Result for 2 stage process:						
a						
y						
C t						
Probability of Queue free St.			1.00		1.00	
Step 4: LT from Minor St.			7		10	
Part 1 - First Stage						
Conflicting Flows						
Potential Capacity						
Pedestrian Impedance Factor						
Cap. Adj. factor due to Impeding mvmnt						
Movement Capacity						
Part 2 - Second Stage						
Conflicting Flows						
Potential Capacity						
Pedestrian Impedance Factor						
Cap. Adj. factor due to Impeding mvmnt						
Movement Capacity						
Part 3 - Single Stage						
Conflicting Flows					60	
Potential Capacity					937	
Pedestrian Impedance Factor			1.00		1.00	
Maj. L, Min T Impedance factor			1.00			
Maj. L, Min T Adj. Imp Factor.			1.00			
Cap. Adj. factor due to Impeding mvmnt			1.00		1.00	
Movement Capacity					937	
Results for Two-stage process:						
a						
y						
C t					937	

Worksheet 8-Shared Lane Calculations

Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (vph)				92		0
Movement Capacity (vph)				937		994
Shared Lane Capacity (vph)					937	

Worksheet 9-Computation of Effect of Flared Minor Street Approaches

Movement	7 L	8 T	9 R	10 L	11 T	12 R
C sep				937		994
Volume				92		0
Delay						
Q sep						
Q sep +1						
round (Qsep +1)						
n max						
C sh					937	
SUM C sep						
n						
C act						

Worksheet 10-Delay, Queue Length, and Level of Service

Movement	1	4	7	8	9	10	11	12
Lane Config	LT						LR	
v (vph)	0						92	
C(m) (vph)	1482						937	
v/c	0.00						0.10	
95% queue length	0.00						0.33	
Control Delay	7.4						9.3	
LOS	A						A	
Approach Delay							9.3	
Approach LOS							A	

Worksheet 11-Shared Major LT Impedance and Delay

	Movement 2	Movement 5
p(oj)	1.00	1.00
v(il), Volume for stream 2 or 5	0	
v(i2), Volume for stream 3 or 6	0	
s(il), Saturation flow rate for stream 2 or 5	1700	
s(i2), Saturation flow rate for stream 3 or 6	1700	
P*(oj)	1.00	
d(M,LT), Delay for stream 1 or 4	7.4	
N, Number of major street through lanes	1	
d(rank,1) Delay for stream 2 or 5	0.0	

HCS+: Unsignalized Intersections Release 5.6

TWO-WAY STOP CONTROL SUMMARY

Analyst: F.Ramirez
Agency/Co.: Moreland Altobelli
Date Performed: 8/17/2018
Analysis Time Period: 2042 PM Peak
Intersection: Spalding St at Jackson Ln Ext
Jurisdiction: Spalding County
Units: U. S. Customary
Analysis Year: 2018
Project ID: 0015101
East/West Street: Spalding St
North/South Street: Jackson Ln Ext
Intersection Orientation: EW Study period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street: Approach	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume	0	0			0	115
Peak-Hour Factor, PHF	0.92	0.92			0.92	0.92
Hourly Flow Rate, HFR	0	0			0	124
Percent Heavy Vehicles	0	--	--		--	--
Median Type/Storage	Undivided		/			
RT Channelized?						
Lanes	0	1			1	0
Configuration		LT				TR
Upstream Signal?		No			No	

Minor Street: Approach	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume				175		0
Peak Hour Factor, PHF				0.92		0.92
Hourly Flow Rate, HFR				190		0
Percent Heavy Vehicles				1		0
Percent Grade (%)		0			0	
Flared Approach: Exists?/Storage			/			No /
Lanes				0		0
Configuration					LR	

Delay, Queue Length, and Level of Service

Approach	EB	WB	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Config	LT						LR	
v (vph)	0						190	
C(m) (vph)	1475						947	
v/c	0.00						0.20	
95% queue length	0.00						0.75	
Control Delay	7.4						9.8	
LOS	A						A	
Approach Delay							9.8	
Approach LOS							A	

HCS+: Unsignalized Intersections Release 5.6

Phone: Fax:
E-Mail:

TWO-WAY STOP CONTROL(TWSC) ANALYSIS

Analyst: F.Ramirez
Agency/Co.: Moreland Altobelli
Date Performed: 8/17/2018
Analysis Time Period: 2042 PM Peak
Intersection: Spalding St at Jackson Ln Ext
Jurisdiction: Spalding County
Units: U. S. Customary
Analysis Year: 2018
Project ID: 0015101
East/West Street: Spalding St
North/South Street: Jackson Ln Ext
Intersection Orientation: EW Study period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street Movements	1 L	2 T	3 R	4 L	5 T	6 R
Volume	0	0			0	115
Peak-Hour Factor, PHF	0.92	0.92			0.92	0.92
Peak-15 Minute Volume	0	0			0	31
Hourly Flow Rate, HFR	0	0			0	124
Percent Heavy Vehicles	0	--	--		--	--
Median Type/Storage	Undivided		/			
RT Channelized?						
Lanes	0	1			1	0
Configuration		LT				TR
Upstream Signal?		No			No	

Minor Street Movements	7 L	8 T	9 R	10 L	11 T	12 R
Volume				175		0
Peak Hour Factor, PHF				0.92		0.92
Peak-15 Minute Volume				48		0
Hourly Flow Rate, HFR				190		0
Percent Heavy Vehicles				1		0
Percent Grade (%)		0			0	
Flared Approach: Exists?/Storage				/		No /
RT Channelized?						
Lanes				0		0
Configuration					LR	

Pedestrian Volumes and Adjustments

Movements	13	14	15	16
Flow (ped/hr)	0	0	0	0

Lane Width (ft)	12.0	12.0	12.0	12.0
Walking Speed (ft/sec)	4.0	4.0	4.0	4.0
Percent Blockage	0	0	0	0

Upstream Signal Data

	Prog. Flow vph	Sat Flow vph	Arrival Type	Green Time sec	Cycle Length sec	Prog. Speed mph	Distance to Signal feet
S2 Left-Turn							
Through							
S5 Left-Turn							
Through							

Worksheet 3-Data for Computing Effect of Delay to Major Street Vehicles

	Movement 2	Movement 5
Shared ln volume, major th vehicles:	0	
Shared ln volume, major rt vehicles:	0	
Sat flow rate, major th vehicles:	1700	
Sat flow rate, major rt vehicles:	1700	
Number of major street through lanes:	1	

Worksheet 4-Critical Gap and Follow-up Time Calculation

Critical Gap Calculation

Movement	1 L	4 L	7 L	8 T	9 R	10 L	11 T	12 R
t(c,base)	4.1					7.1		6.2
t(c,hv)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
P(hv)	0					1		0
t(c,g)			0.20	0.20	0.10	0.20	0.20	0.10
Percent Grade			0.00	0.00	0.00	0.00	0.00	0.00
t(3,lt)	0.00					0.70		0.00
t(c,T): 1-stage	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2-stage	0.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
t(c) 1-stage	4.1					6.4		6.2
2-stage								

Follow-Up Time Calculations

Movement	1 L	4 L	7 L	8 T	9 R	10 L	11 T	12 R
t(f,base)	2.20					3.50		3.30
t(f,HV)	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
P(HV)	0					1		0
t(f)	2.2					3.5		3.3

Worksheet 5-Effect of Upstream Signals

Computation 1-Queue Clearance Time at Upstream Signal

	Movement 2		Movement 5	
	V(t)	V(l,prot)	V(t)	V(l,prot)
V prog				

Total Saturation Flow Rate, s (vph)	
Arrival Type	
Effective Green, g (sec)	
Cycle Length, C (sec)	
Rp (from Exhibit 16-11)	
Proportion vehicles arriving on green P	
g(q1)	
g(q2)	
g(q)	

Computation 2-Proportion of TWSC Intersection Time blocked	Movement 2		Movement 5	
	V(t)	V(l,prot)	V(t)	V(l,prot)
alpha				
beta				
Travel time, t(a) (sec)				
Smoothing Factor, F				
Proportion of conflicting flow, f				
Max platooned flow, V(c,max)				
Min platooned flow, V(c,min)				
Duration of blocked period, t(p)				
Proportion time blocked, p	0.000		0.000	

Computation 3-Platoon Event Periods	Result
p(2)	0.000
p(5)	0.000
p(dom)	
p(subo)	
Constrained or unconstrained?	

Proportion unblocked for minor movements, p(x)	(1) Single-stage Process	(2) Two-Stage Process Stage I	(3) Stage II
p(1)			
p(4)			
p(7)			
p(8)			
p(9)			
p(10)			
p(11)			
p(12)			

Computation 4 and 5 Single-Stage Process								
Movement	1 L	4 L	7 L	8 T	9 R	10 L	11 T	12 R
V c,x	124					62		62
s								
Px								
V c,u,x								
C r,x								
C plat,x								

Two-Stage Process				
	7	8	10	11

	Stage1	Stage2	Stage1	Stage2	Stage1	Stage2	Stage1	Stage2
V(c,x)								
s						1500		
P(x)								
V(c,u,x)								
C(r,x)								
C(plat,x)								

Worksheet 6-Impedance and Capacity Equations

Step 1: RT from Minor St.					9		12	
Conflicting Flows							62	
Potential Capacity							1009	
Pedestrian Impedance Factor					1.00		1.00	
Movement Capacity							1009	
Probability of Queue free St.					1.00		1.00	
Step 2: LT from Major St.					4		1	
Conflicting Flows							124	
Potential Capacity							1475	
Pedestrian Impedance Factor					1.00		1.00	
Movement Capacity							1475	
Probability of Queue free St.					1.00		1.00	
Maj L-Shared Prob Q free St.							1.00	
Step 3: TH from Minor St.					8		11	
Conflicting Flows								
Potential Capacity								
Pedestrian Impedance Factor					1.00		1.00	
Cap. Adj. factor due to Impeding mvmnt					1.00		1.00	
Movement Capacity								
Probability of Queue free St.					1.00		1.00	
Step 4: LT from Minor St.					7		10	
Conflicting Flows							62	
Potential Capacity							947	
Pedestrian Impedance Factor					1.00		1.00	
Maj. L, Min T Impedance factor					1.00			
Maj. L, Min T Adj. Imp Factor.					1.00			
Cap. Adj. factor due to Impeding mvmnt					1.00		1.00	
Movement Capacity							947	

Worksheet 7-Computation of the Effect of Two-stage Gap Acceptance

Step 3: TH from Minor St.					8		11	
Part 1 - First Stage								
Conflicting Flows								
Potential Capacity								
Pedestrian Impedance Factor								
Cap. Adj. factor due to Impeding mvmnt								
Movement Capacity								
Probability of Queue free St.								

Part 2 - Second Stage						
Conflicting Flows						
Potential Capacity						
Pedestrian Impedance Factor						
Cap. Adj. factor due to Impeding mvmnt						
Movement Capacity						
Part 3 - Single Stage						
Conflicting Flows						
Potential Capacity						
Pedestrian Impedance Factor			1.00		1.00	
Cap. Adj. factor due to Impeding mvmnt			1.00		1.00	
Movement Capacity						
Result for 2 stage process:						
a						
y						
C t						
Probability of Queue free St.			1.00		1.00	
Step 4: LT from Minor St.			7		10	
Part 1 - First Stage						
Conflicting Flows						
Potential Capacity						
Pedestrian Impedance Factor						
Cap. Adj. factor due to Impeding mvmnt						
Movement Capacity						
Part 2 - Second Stage						
Conflicting Flows						
Potential Capacity						
Pedestrian Impedance Factor						
Cap. Adj. factor due to Impeding mvmnt						
Movement Capacity						
Part 3 - Single Stage						
Conflicting Flows					62	
Potential Capacity					947	
Pedestrian Impedance Factor			1.00		1.00	
Maj. L, Min T Impedance factor			1.00			
Maj. L, Min T Adj. Imp Factor.			1.00			
Cap. Adj. factor due to Impeding mvmnt			1.00		1.00	
Movement Capacity					947	
Results for Two-stage process:						
a						
y						
C t					947	

Worksheet 8-Shared Lane Calculations

Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (vph)				190		0
Movement Capacity (vph)				947		1009
Shared Lane Capacity (vph)					947	

Worksheet 9-Computation of Effect of Flared Minor Street Approaches

Movement	7 L	8 T	9 R	10 L	11 T	12 R
C sep				947		1009
Volume				190		0
Delay						
Q sep						
Q sep +1						
round (Qsep +1)						
n max						
C sh					947	
SUM C sep						
n						
C act						

Worksheet 10-Delay, Queue Length, and Level of Service

Movement	1	4	7	8	9	10	11	12
Lane Config	LT						LR	
v (vph)	0						190	
C(m) (vph)	1475						947	
v/c	0.00						0.20	
95% queue length	0.00						0.75	
Control Delay	7.4						9.8	
LOS	A						A	
Approach Delay							9.8	
Approach LOS							A	

Worksheet 11-Shared Major LT Impedance and Delay

	Movement 2	Movement 5
p(oj)	1.00	1.00
v(il), Volume for stream 2 or 5	0	
v(i2), Volume for stream 3 or 6	0	
s(il), Saturation flow rate for stream 2 or 5	1700	
s(i2), Saturation flow rate for stream 3 or 6	1700	
P*(oj)	1.00	
d(M,LT), Delay for stream 1 or 4	7.4	
N, Number of major street through lanes	1	
d(rank,1) Delay for stream 2 or 5	0.0	

Attachment 7
Pavement studies

FLEXIBLE PAVEMENT DESIGN ANALYSIS

Project: 0015101 **County:** Spalding
P.I. no.: 0001510
Description: Conceptual Pavement Design

Traffic Data (NOTE: AADTs are one-way)
24-hour Truck Percentage: 7.00%
AADT initial year of design period: 2,600 vpd (2022)
AADT final year of design period: 2,850 vpd (2042)
Mean AADT (one-way): 2,725 vpd

Design Loading

Mean AADT		LDF		Trucks		18-K ESAL		Total Daily Loads
2,725	*	1.00	*	0.070	*	0.73	=	140

Total predicted design period loading = 140 * 20 * 365 = 1,022,000

Design Data
Terminal Serviceability Index: 2.50
Soil Support: 2.50
Regional Factor: 1.60

PROPOSED FLEXIBLE PAVEMENT STRUCTURE

Material	Thickness Inches	Thickness (mm)	Structural Coefficient	Structural Value
9.5 mm Superpave	1.25	(32)	0.44	0.55
19 mm Superpave	2.00	(51)	0.44	0.88
25 mm Superpave	1.25	(32)	0.44	0.55
	2.75	(70)	0.30	0.83
Graded Aggregate Base	10.00	(254)	0.16	1.60

Required SN = 4.56 Proposed SN = 4.41

>>> Proposed pavement is 3.2% Underdesign <<<

Remarks:

Prepared by Ralph C. Ramsdell May 7, 2018
Date

Recommended _____
State Materials & Research Engineer **Date**

Approved _____
State Consultant Design Engineer **Date**

Attachment 8
Minutes of Concept Meetings

Initial Concept Team Meeting Minutes

Intersection Improvement - Solomon Street at Searcy Ave, Spalding Street and at Norfolk Southern Railroad Crossing
P.I. No. 0015101
City of Griffin, Spalding County

September 22, 2017 at 1:30 PM
City of Griffin (100 S. Hill Street) Large Conference Room

ATTENDEES	ORGANIZATION	PHONE	EMAIL
Cherral Dempsey	GDOT Project Manager	404-274-0626	cdempsey@dot.ga.gov
Harland Smith	GDOT D3 Traffic Ops	706-646-7566	hasmith@dot.ga.gov
Krystal Stovall-Dixon	GDOT Program Delivery	404-631-1572	kstoval-dixon@dot.ga.gov
Glen Cranshaw	GDOT	706-646-7600	gcranshaw@dot.ga.gov
Aaron T Burgess*	GDOT OES	404-631-1159	aburgess@dot.ga.gov
Chris Walker	City of Griffin	678-588-4244	cwalker@cityofgriffin.com
Brant D. Keller	City of Griffin	678-692-0391	bkeller@cityofgriffin.com
Kenny Smith	City of Griffin	770-229-6408	ksmith@cityofgriffin.com
BJ Martin	Paragon Consulting Group	678-341-4701	bmartin@pcgeng.com
L.N. Manchi*	MAAI	770-263-5945	lmanchi@maai.net
Dave Bearse	MAAI	770-263-5945	dbearse@maai.net
Karla Poshedly	MAAI	770-263-5945	kposhedly@maai.net
Mike Wilson*	MAAI	770-263-5945	mwilson@maai.net

*Participated on the telephone.
**Twelve copies of the draft concept report, photography of businesses surrounding the project and meeting agenda were distributed to attendees.

It was noted at the beginning of the meeting that Mr. Ken Timpson, the MAAI project manager had emergency surgery and was unable to attend. Mr. L.N. Manchi stated that he would be the project manager and could not attend in person but was on the telephone. Mr. B.J. Martin, Transportation Program Manager for City of Griffin, asked about progress with the environmental field reviews. Mr. Manchi stated that early coordination response letters from Georgia Department of Natural Resources and U.S. Fish & Wildlife Service were received on May 30, 2017 and May 10, 2017, respectively. Field reviews would be conducted shortly after the initial concept team meeting.

Ms. Karla Poshedly then discussed the Need and Purpose of the project. She stated that projected traffic volumes were approved by the Georgia Department of Transportation (GDOT) Office of Planning on July 5, 2017.

Ms. Poshedly provided and reviewed aerial photography of the study area and discussed the traffic patterns and roadways that connect to the existing railroad crossing. She then provided and reviewed the initial MAAI preferred alternative and two other alternatives for improving the railroad crossing intersection.

The City of Griffin representatives said they did not like the preferred alternative because it had intersections adjacent to the crossing on both sides of the crossing. Specifically, they requested that the Spalding Street intersection should be relocated. Mr. Brant D. Keller, the City's Public Works Director, requested that the alignment tie directly into E. Solomon Street. Mr. Chris Walker stated that the alignment should not cut through the industrial property north of E. Solomon Street and west of Jackson Lane because of the potential for future development on that site. The City would prefer to have the alignment go through the abandoned homes along the north side of E. Solomon Street. Alternately the alignment could cross the railroad near the preferred alternative, avoid the abandoned home on E. Solomon Street nearest the crossing and tie into E. Solomon Street near Jackson Lane. City representatives requested consideration of an extension of Jackson Lane south from E. Solomon Street to Spalding Street.

Ms. Poshedly stated that the alignments could be changed but that historic surveys will need to be conducted in order to realign the roadway through the old homes along E. Solomon Street. Mr. Mike Wilson, MAAI's NEPA manager and historian stated that he has to assess any structures that are over 50 years old and document whether the structure is eligible for the historic registry. He said that he has already reviewed online databases and found that there are no structures on the historic registry in the immediate vicinity of the project. He said that he would have to conduct historic surveys of all the homes potentially to be impacted by this project and send in the survey to GDOT Office of Environmental Services (OES) and subsequently the State Historic Preservation Officer (SHPO) for concurrence. Mr. Wilson said that the process would take until December because there is a 30-day review by GDOT OES and a 30-day review by SHPO.

There was a call for comments and questions:

- Ms. Cherral Dempsey asked about how the historic survey review would affect the schedule. Ms. Poshedly said that the schedule would not change. She said the draft concept report is complete minus the chosen alignment and cost estimate. The Public Information Open House (PIOH) is scheduled for February. Ms. Poshedly said that MAAI could meet that date. The concept report is scheduled for approval in April.
- Ms. Dempsey also asked about the MS4 requirements for this project. Mr. Manchi said that since this is a local let project and has no state route involvements in the project, that it would be up to the City to determine their MS4 requirements. Mr. Brant Keller said that he will make that determination after the final alignment is set.
- Mr. L.N. Manchi informed the attendees that he would go over the initial concept team meeting comments related to the alignments so the Area of Potential Effect (APE) could be finalized and is manageable to enable the environmental field work to begin.
- Mr. Martin asked if MAAI could watch the schedule carefully. He said that he would like to be informed the specific dates that MAAI begins major activities. Mr. Manchi said that he would make sure that progress reports reflected that information and that he would contact Mr. Martin and GDOT PM Dempsey when major activities begin as well as provide a percentage complete for on-going activities.
- Mr. Aaron T. Burgess asked if the project would be federally funded. Ms. Dempsey stated that Federal funds are programmed for this project at this time.

- Mr. Harland Smith asked if USTs were studied for the concept. Mr. Manchi stated that USTs are not studied in depth until the environment document is being prepared.
- Ms Krystal Stovall-Dixon commented to check and make sure that the latest format is being used for the concept report.

The meeting was then adjourned.

Action Items:

Ms. Poshedly said that she would sketch the new possible alignments and send them through email to all attendees for comments while waiting on the historic resource determinations.

Moreland Altobelli Associates, LLC
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Duluth, Georgia 30096--8910
Phone: 770-263-5945 Fax: 770-263-0166

MEETING MINUTES

Project:	**East Solomon Street/Searcy Avenue/Spalding Drive**
	PI No. 0015101
Meeting:	**Concept Team Meeting**
Location:	**GDOT District 3, Thomaston Auditorium A**
Prepared By:	L N Manchi

Meeting Date	9/10/2018
MA Project No.	COG001
CC:	File COG001 Attendees

ATTENDEES	ORGANIZATION	EMAIL
David Fairlie	MA Senior Transportation Engineer	dfairlie@maai.net
Elizabeth Clappin	MA Historian	eclappin@maai.net
Ralph Ramsdell	MA Senior Design Engineer	rramsdell@maai.net
Brant D. Keller	City of Griffin	bkeller@cityofgriffin.com
BJ Martin	Paragon Consulting Group	bmartin@pcgeng.com
Ricardo Maxwell	GDOT	rmaxwell@dot.ga.gov
George Johnson	GDOT	gejohnson@dot.ga.gov
Kraig A. Collins	GDOT	krcollins@dot.ga.gov
Glen Cranshaw	GDOT	gcranshaw@dot.ga.gov
Greg Cromer	GDOT D3 Utilities	gcromer@dot.ga.gov
Clinton B. Ford	GDOT	cford@dot.ga.gov
L N Manchi	MA	lmanchi@maai.net
Dave Bearse	MA	dbearse@maai.net
Sheldon Minor	GDOT D3 Construction	sminor@dot.ga.gov
Shawn Buckley	GDOT D3 Preconstruction	sbuckley@dot.ga.gov
Terri Lotti	GDOT OES	tlotti@dot.ga.gov
Amber Rhea	GDOT OES	arhea@dot.ga.gov
Pamela Baughman	GDOT OES	pbaughman@dot.ga.gov
Shelby Telfer	GDOT OES	stelfer@dot.ga.gov
Afton Tankersley	GDOT OES	atankersley@dot.ga.gov
Cherral Dempsey	GDOT OPD	cdempsey@dot.ga.gov

The following is a brief summary of the major discussion points of the concept team meeting.

Presentation

- Dr. Keller provided an overview and background for the project as to the need and purpose with an emphasis on pedestrian safety with sidewalks.
- L N Manchi covered the highlights of the project including the planning and background, design and structural elements, intersections, utility and property, proposed typical section, environmental resources, estimated costs, coordination and responsibilities, and finally the alternatives discussion.

Concept Report Review

- Distribution power lines in the study area need to be looked at closely and the reimbursable utilities portion of the costs may need to be revised based on this.
- The team will request guidance from District Utilities regarding the need for Public Interest Determination.
- Clarification was provided regarding the need for an exclusive left turn lane along the westbound approach of East Solomon Street.
- Reviewed the proposed impacts to environmental resources. The historic district and its significance were briefly discussed. It was also mentioned that the State Historic Preservation Office (SHPO) requested that the boundary of the historic district be slightly expanded.

- OES asked if the crash data for the intersection justified the need and purpose of the project. GDOT Office of Environmental Services (OES) suggested adding more justification as well as data supporting the project in the need and purpose section of the report.
- Environmental survey methodology was detailed, and a description of the resources identified, specifically, the East Griffin Mills Historic District.
- GDOT OES staff stressed the importance of selecting a preferred alternative that caused the minimal amount of impacts.
- The City of Griffin inquired about the length of delay to the project implementation due to the potential impacts to historic resources.
- Information pertaining to the five specific historic properties that are proposed as displacements along with the property owner names and if the residences were vacant was provided to the attendees.
- GDOT OES stated that the preferred alternative may constitute a 4 (f) given the proposed impacts to the historic district. It was agreed that the 4 (f) process would cause delays to the environmental document approval process.
- The team agreed to reach out to the Federal Highway Administration and present the preferred alternative and discuss the implications of the 4 (f) process as soon as the project entered the preliminary design phase.
- GDOT OES also emphasized the need for the Avoidance and Minimization Measures Meeting (A3M) so the designers and the environmental staff can work closely to avoid and minimize impacts to the project before going too far into preliminary design.
- GDOT OES stated that the Archaeology Short Report has not been approved. This will be returned next week with comments that could potentially require additional field work.
- GDOT OES stressed that archaeology is extremely important on this project as it may reveal additional information in relation to the historic district identified in the History Resource Survey Report (HRSR).
- The Public Information Open House (PIOH) is currently behind the baseline schedule. The team will start preparing the draft materials to get the process rolling so the PIOH can be scheduled.
- The Atlanta Regional Commission (ARC) has programmed the next phase of Preliminary Design and it was important for the team to wrap up the concept phase as soon as possible.
- The meeting was adjourned at 3:00 p.m.

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MEETING MINUTES

PI # 0015101 East Solomon/Searcy Ave., Spalding
Thomaston Concept Team Meeting
GDOT District 3 Off. Monday Sept. 10, 2018

S. #	Name	Email	Organization
1.)	DAVID FAIRLIE	DFAIRLIE@MAAI.NET	MORELAND ALTOBELLI
2.)	Elizabeth Clappin	eclappin@maai.net	Moreland Altobelli
3.)	Ralph Ramsdell	rramsdell@maai.net	Moreland Altobelli
4.)	BRANT D. KELLER	bkeller@cityofgriffin.com	CITY OF GRIFFIN
5.)	BJ Martin	bmartin@pegeng.com	Paragon Consulting Group
6.)	Ricardo Maxwell	Rmaxwell@dot.ga.gov	GDOT
7.)	George JOHNSON	GEJOHNSON@DOT.GA.GOV	GDOT
8.)	Kraig A. Collins	krcollins@dot.ga.gov	GDOT
9.)	Glen Crawshaw	gcrawshaw@dot.ga.gov	GDOT
10.)	GREG CROMER	GGCROMER@DOT.GA.GOV	D3 UTILITIES/SAM
11.)	Clinton Buford	cford@dot.ga.gov	GDOT-OPD
12.)	L N MANCHI	LMANCHI@MAAI.NET	MORELAND ALTOBELLI
13.)	DAVE BEARSE	DBEARSE@MAAI.NET	" "
14.)	SHELDON XAVIOR	SMIXON@dot.ga.gov	GDOT D3 CONSTR.
15.)	Shawn Buckley	sbuckley@dot...	GDOT D3 Preco
16.)	Terri Lotti	tlotti@dot.ga.gov	GDOT OES
17.)	Amber Rhea	Arehea@dot.ga.gov	GDOT OES
18.)	Pamela Baughman	pbaughman@dot.ga.gov	GDOT OES
19.)	Shelby Telfur	stelfur@dot.ga.gov	GDOT OES
20.)	Afton VanKersley	atanKersley@dot.gov	GDOT OES
21.)	Cherral Dempsey	cdempsey@dot.gov	GDOT OPD

Attachment 9
PIOH Summary of Results

INTERDEPARTMENT CORRESPONDENCE

FILE: P. I. No. 0015101

OFFICE: Environmental Services
DATE: January 23, 2018

SUBJECT: East Solomon Street and Searcy Avenue Intersection Improvements
City of Griffin, Spalding County,
Summary of Comments Received During the Public Involvement Open House

COMMENT TOTALS:

A total of 8 people attended the public involvement open house held for the subject project on December 19, 2018.

From those attending, 0 comment forms, and 0 verbal statements were received. No additional email comments and one (1) written comment was received during the sixteen-day comment period following the public information open house. The single comment is summarized as follows:

No. Opposed	No. In Support	Uncommitted	Conditional
0	0	0	1

MAJOR CONCERNS:
None

OFFICIALS:
Brant Keller, Director of Public Works, City of Griffin
Gwendolyn Flowers-Taylor, Spalding County Board of Commissioners

MEDIA:
None

DISPOSITION OF COMMENTS:
Moreland Altobelli Associates, LLC, will respond to all comments on behalf of the City of Griffin and the Georgia Department of Transportation

The GDOT offices below are asked to review the responses provided by the consultant for the comments in their section. The project manager will review all responses.

REVIEWING OFFICE	COMMENT #	NATURE OF COMMENT	PROPOSED RESPONSE
Environmental	1	The respondent (Newton Crouch, Inc.) marked their comment card “conditional” indicating their support for the proposed project, based on a list of six concerns regarding access to their property and water management based on the project design.	Draft Response Letter is attached, this document iscurrently under GDOT review

Attached is a copy of the public information open house handout for review. As no verbal comments were received during the open house, a transcript is not included. **Your input on the proposed response is required by February 8, 2019**. Please direct your comments via email to Elizabeth Clappin, Moreland Altobelli Associates, LLC (eclappin@maai.net) and copy Brant Keller, Director of Public Works, City of Griffin (bkeller@cityofgriffin.com).

If you have any questions about the comments, please either email Brant Keller, Director of Public Works, City of Griffin (bkeller@cityofgriffin.com).

DISTRIBUTION:
Cherral Dempsey, w/ attachments
V. Ryan Perry, w/ attachments
Eric Pitts, w/ attachments
Brant Keller, w/ attachments
Bryan Williams, w/attachments

Griffin
Growing TOGETHER

GDOT
Georgia Department of Transportation

Comment Card

Please print responses.

Name Newton Crouch Inc.

Address 890 E. Solomon Street Po Box 17
Griffin, Ga. 30223 Griffin, Ga. 30224

Do you support the project and the detour as presented? (check your response)

☐ ***For*** ☐ ***Against*** ☒ ***Conditional*** ☐ ***Uncommitted***

General Comments please see attached

How did you hear about this Open House? (check) ☐ ***Newspaper*** ☒ ***Signs*** ☐ ***GDOT Website***
☐ ***Radio*** ☐ ***Word of Mouth*** ☐ ***Social Media*** ☐
Other _____

Was the location of the Open House convenient for you to attend? ☑ **Yes** ☐ **No**

If no, please suggest a general location that is more convenient to your community.

Was the time of the meeting convenient for you to attend? ☑ **Yes** ☐ **No**

If no, please suggest a time frame that is more convenient for you.

Were your questions answered by GDOT personnel? ☒ **Yes** ☐ **No**

Do you understand the project after attending this meeting? ☑ **Yes** ☐ **No**

Please share your suggestions on improving the ways GDOT conducts Open Houses:

Mail to:
Dr. Brant Keller, Director of Public Works, City of Griffin, 100 South Hill Street, Griffin, GA, 30223

GDOT – Open House Meeting on 12/19/2018

Comment Card

General Comments:

1. Need "No Blocking Drive" sign in main entrance
2. Have 2nd entry available on East side of Warehouse
3. Concerned about main entrance and hump creation with large truck entry
4. Concerned with water management with altered entry
5. Being able to lock gate with full-sized pickup truck outside of gate, and out of roadway
6. Retaining parking in front of Searcy Property; full-sized truck to have room to back in

Griffin

GDOT
Georgia Department of Transportation

Newton Crouch, Inc.

P.O. Box 17

Griffin, GA 30224

Re: Responses to Open House Comments for P.I. No. 0015101, Spalding County, East Solomon Street and Searcy Avenue Intersection Improvements

Dear Newton Crouch, Inc.,

Thank you for your comments concerning the proposed project referenced above. We appreciate your participation and all of the input that was received as a result of the December 19, 2018 Public Involvement Open House. Every written comment received will be made part of the project's official record.

A total of 8 people attended the open house. Of the one (1) respondent who formally commented, one (1) expressed conditional support.

The attendees of the open house and those persons sending in comments within the comment period raised the following questions and concerns. The City of Griffin and the Georgia Department of Transportation (GDOT) have prepared this response letter that addresses all comments received so that everyone can be aware of the concerns raised and the responses given. Please find the comments summarized below (in *italics*) followed by our response.

1.) *Need "No Blocking Drive" sign in main entrance [890 E. Solomon Street].*

A "Do not block intersection" sign, or equivalent will be posted for the 890 East Solomon Street driveway in accordance to the MUTCD 2009 edition and/or City of Griffin sign guidelines.

2.) *Have 2nd entry available on the East side of Warehouse.*

The intersection of East Solomon Street at North Searcy Avenue and Spalding Street is within the railroad's right-of-way, which creates safety and operational concerns. The project proposes to eliminate the one-way, northbound leg of Searcy Avenue at the existing intersection in order to address this. Any vehicles that use this intersection to access the warehouse located on 878 East Broadway would be diverted to Jackson Lane.

3.) *Concerned about main entrance and hump creation with large truck entry.*

Any widening work that may affect the grade of the existing driveway will be performed as to minimize any affect to operations at said driveway. Any modification to the existing grade will meet the requirements of the GDOT Construction Detail A2, Revised 7-21-11.

4.) *Concerned about water management with altered entry.*

The two existing drop inlets in the grass area between the roadway and sidewalk will be adjusted to grade to continue to intercept runoff. The roadway runoff will be collected in the proposed curb and gutter and conveyed by catch basins and pipe to the existing storm drain.

5.) *Being able to lock gate with full-sized pickup truck outside of gate, and out of roadway.*

The widening work on East Solomon Street will be performed within the existing public right-of-way. After the proposed widening, the distance between the proposed edge of pavement and the current location of the gate in question would be approximately 38 feet.

6.) *Retaining parking in front of Seorcy Property [878 East Broadway]; full-sized truck to have room to back in.*

The conceptual drawing of the project shows proposed landscaping for an area within the property mentioned in the above comment. The drawing will be revised to show landscaping only within the public right-of-way, not on private property. This would ensure that the project does not affect truck maneuvers within the private property of 878 East Broadway, which is outside the project limits.

Again, thank you for your comments. Should you have any further questions, comments, or concerns, please contact Dr. Brant Keller, Director of Public Works for the City of Griffin at bkeller@cityofgriffin.com at or the GDOT Project Manager, Cherral Dempsey at cdempsey@dot.ga.gov.

Sincerely,

Brant Keller, Ph. D

Director of Public Works, City of Griffin

Eric Duff

State Environmental Administrator

cc: Cherral Dempsey, GDOT Project Manager

V. Ryan Perry, GDOT Office of Environmental Services

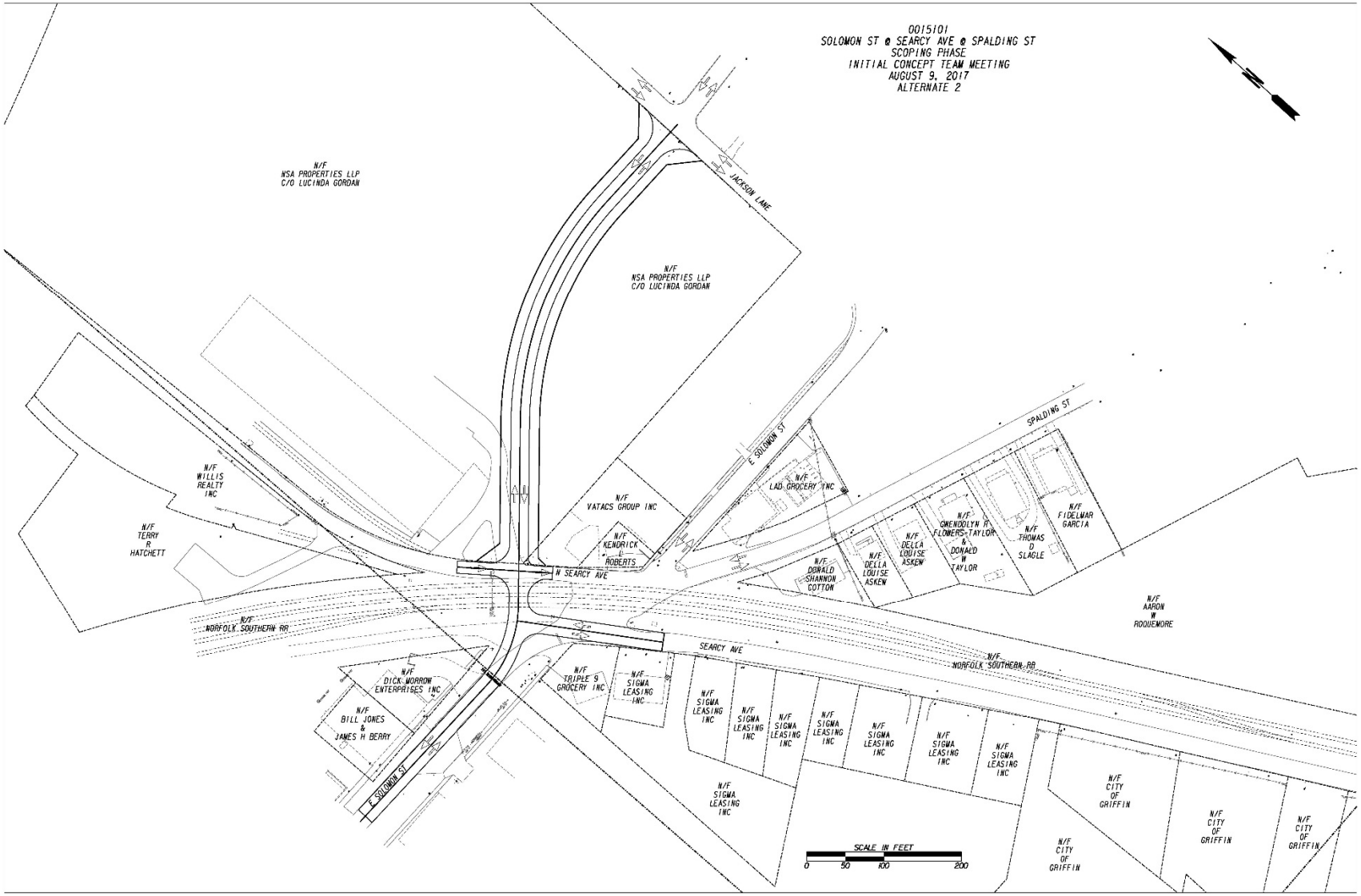
BJ Martin, PCG Engineering

Dr. Brant Keller, City of Griffin

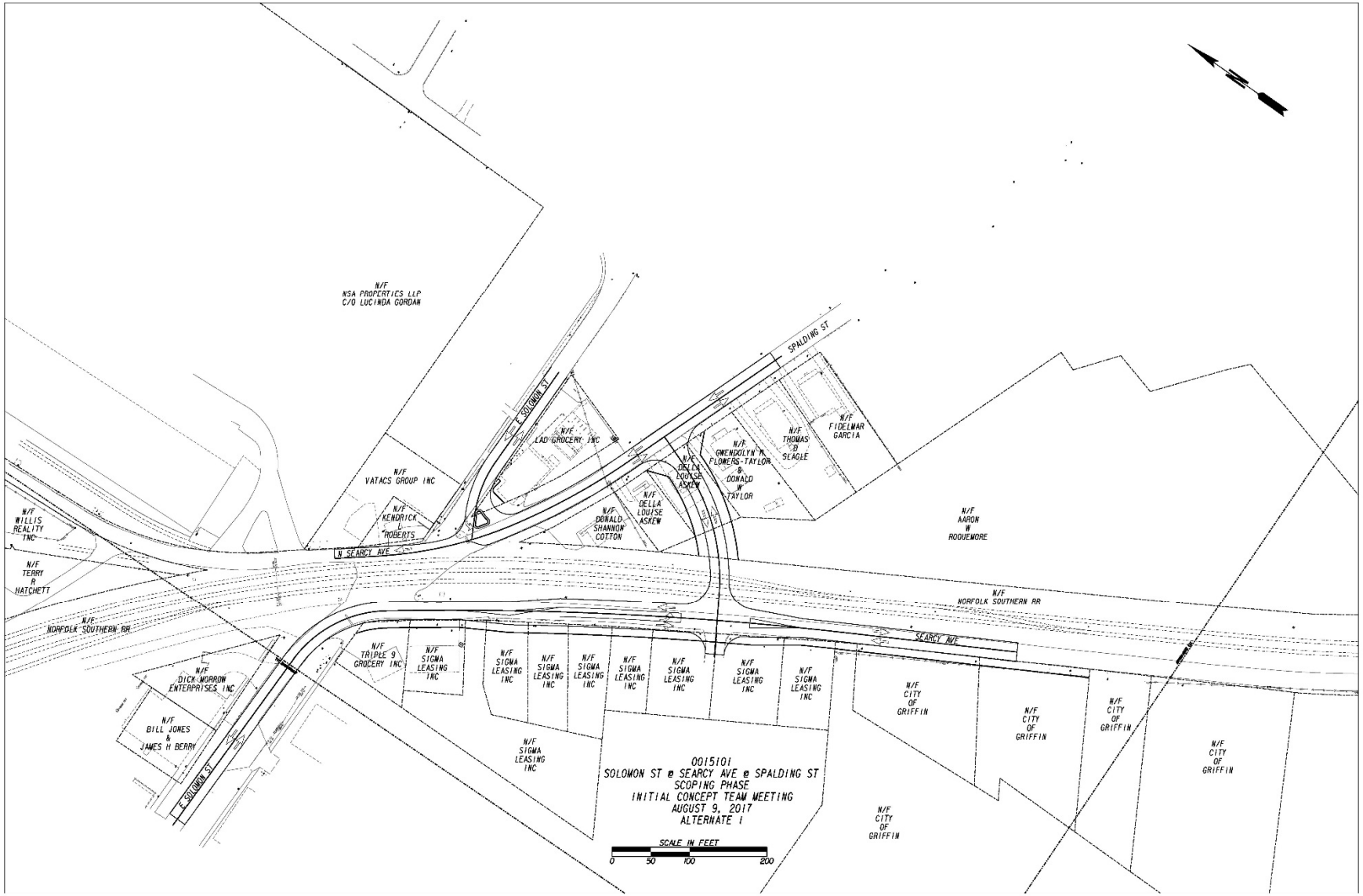
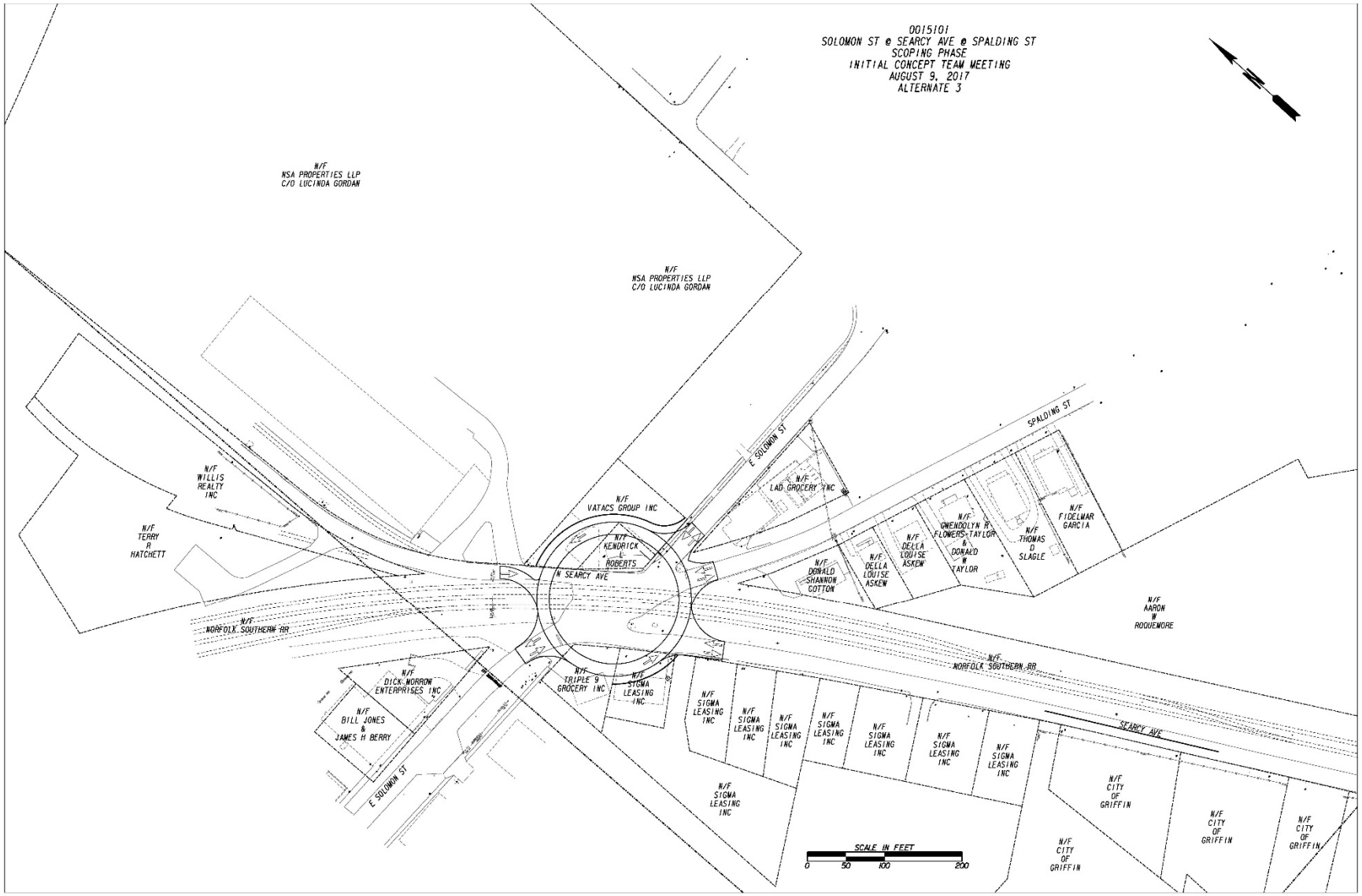
PDF for Project File

Attachment 10
Alternative Drawings 2-4

Alternative 2 Drawing



Alternative 3 Drawing



Alternative 4 Drawing