GENERAL PROVISIONS

1. THE CONTRACTOR SHALL OBTAIN FROM THE OWNER COPIES OF ALL AVAILABLE REGULATORY AGENCY PERMITS AND LOCAL AGENCY PERMITS.

2. ALL CONSTRUCTION PROJECTS 1 OR MORE ACRES IN SIZE THAT DISCHARGE TO OFFSITE AREAS ARE REQUIRED TO COMPLY WITH THE REQUIREMENTS OF THE NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) GENERAL PERMIT FOR STORMWATER DISCHARGE FROM SMALL AND LARGE CONSTRUCTION ACTIVITIES. IN ORDER TO MEET NPDES REQUIREMENTS, THE CONTRACTOR IS RESPONSIBLE FOR PREPARING A STORMWATER POLLUTION PREVENTION PLAN (SWPPP), IMPLEMENTING, INSPECTING, MAINTAINING, AND REPORTING ON ALL ELEMENTS OF THE SWPPP, COMPLETING AND SUBMITTING THE REQUIRED NOTICE OF INTENT (N01) AND NOTICE OF TERMINATION (NOT) FORMS AS THE OPERATOR, AND PAYING ALL ASSOCIATED FEES. FOR PROJECTS LESS THAN 1 ACRE IN SIZE THAT ARE NOT REQUIRED TO COMPLY WITH THE NPDES GENERAL PERMIT, THE CONTRACTOR IS STILL RESPONSIBLE FOR IMPLEMENTING AND MAINTAINING EROSION AND SEDIMENT CONTROL MEASURES PRIOR TO AND DURING CONSTRUCTION IN ACCORDANCE WITH THE DRAWINGS AND SPECIFICATIONS.

3. UNLESS OTHERWISE NOTED ON THE PLANS, THE CONTRACTOR SHALL USE THE GEOMETRY PROVIDED ON THE CONSTRUCTION PLANS. BENCHMARK INFORMATION SHALL BE PROVIDED TO THE CONTRACTOR BY THE OWNER OR OWNERS SURVEYOR. ANY DISCREPANCIES BETWEEN FIELD MEASUREMENTS AND CONSTRUCTION PLAN INFORMATION SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER IMMEDIATELY.

4. BASE SURVEY INFORMATION INCLUDING BUT NOT LIMITED TO ELEVATIONS, EASEMENTS, RIGHTS OF WAY, AND OTHER TOPOGRAPHIC INFORMATION HAS BEEN PREPARED BY OTHER PROFESSIONALS. SZAUER ENGINEERING, INC. NO RESPONSIBILITY FOR THE ACCURACY OF THIS INFORMATION.

5. THIS SET OF PLANS MAY CONTAIN DRAWINGS PREPARED BY OTHER PROFESSIONALS, WHICH CONTAIN THE NAME, ADDRESS, AND LOGO OF THE PROFESSIONAL. SZAUER ENGINEERING, INC. IS NOT RESPONSIBLE FOR DRAWINGS PREPARED BY OTHER PROFESSIONALS.

6. THE CONTRACTOR SHALL SUBMIT (6) COPIES OF SHOP DRAWINGS TO THE ENGINEER FOR APPROVAL PRIOR TO ORDERING THE MATERIALS REQUIRED FOR CONSTRUCTION. PRIOR TO SUBMISSION, THE CONTRACTOR SHALL THOROUGHLY CHECK SHOP DRAWINGS, PRODUCT DATA, AND SAMPLES FOR COMPLETENESS AND FOR COMPLIANCE WITH THE CONSTRUCTION PLANS AND SHALL VERIFY ALL DIMENSIONS AND FIELD CONDITIONS AND SHALL COORDINATE THE SHOP DRAWINGS WITH THE REQUIREMENTS FOR OTHER RELATED WORK. THE CONTRACTORS RESPONSIBILITY FOR ERRORS AND OMISSIONS IN SUBMITTALS IS NOT RELIEVED BY THE ENGINEERS REVIEW OF SUBMITTALS. THE CONTRACTOR SHALL NOTIFY THE ENGINEER, IN WRITING AT THE TIME OF SUBMISSION, OF DEVIATIONS IN SUBMITTALS FROM THE REQUIREMENTS OF THE CONTRACT DOCUMENTS.

7. PROTECT BENCHMARKS, PROPERTY CORNERS, AND OTHER SURVEY MONUMENTS FROM DAMAGE OR DISPLACEMENT. IF MARKER NEEDS TO BE REMOVED IT SHALL BE REFERENCED BY LICENSED LAND SURVEYOR AND REPLACED, AS NECESSARY, BY SAME.

8. THE CONTRACTOR IS RESPONSIBLE FOR ALL QUALITY CONTROL TESTING. AS A MINIMUM, TESTING SHALL INCLUDE A) PIPING AND STRUCTURAL EXCAVATION, BEDDING AND BACKFILL MATERIALS AND DENSITY TESTS; B) DETERMINATION OF COMPACTIVE EFFORT NEEDED FOR COMPLIANCE WITH THE DENSITY REQUIREMENTS; C) PORTLAND CEMENT CONCRETE AND ASPHALT PAVING QUALITY CONTROL TESTING INCLUDING DESIGN MIX REVIEW, MATERIALS, FIELD SLUMP AND AIR CONTENT, AND FIELD AND LAB CURED STRENGTH SAMPLES AND TESTING.

9. IN ADDITION TO QUALITY CONTROL TESTING, THE CONTRACTOR SHALL BE RESPONSIBLE FOR REQUIRED TESTING OR APPROVALS FOR ANY WORK (OR ANY PART THEREOF) IF LAWS OR REGULATIONS OF ANY PUBLIC BODY HAVING JURISDICTION SPECIFICALLY REQUIRE TESTING, INSPECTIONS OR APPROVAL. THE CONTRACTOR SHALL PAY ALL COSTS IN CONNECTION THEREWITH AND SHALL FURNISH THE OWNER AND ENGINEER THE REQUIRED CERTIFICATES OF INSPECTION, TESTING OR APPROVAL.

10. ANY DESIGN OR TESTING LABORATORY UTILIZED BY THE CONTRACTOR SHALL BE AN INDEPENDENT LABORATORY ACCEPTABLE TO THE OWNER AND THE ENGINEER, APPROVED IN WRITING, AND COMPLYING WITH THE LATEST EDITION OF THE "RECOMMENDED REQUIREMENTS FOR INDEPENDENT LABORATORY QUALIFICATION", PUBLISHED BY THE AMERICAN COUNCIL OF INDEPENDENT LABORATORIES.

11. TESTING RESULTS SHALL BE PROVIDED TO THE OWNER/OPERATOR AND THE ENGINEER. ALL TEST RESULTS SHALL BE PROVIDED (PASSING AND FAILING) ON A REGULAR AND IMMEDIATE BASIS.

12. THE ENTIRE PROJECT SITE SHALL BE THOROUGHLY CLEANED AT THE COMPLETION OF THE WORK. CLEAN ALL INSTALLED PIPELINES, STRUCTURES, SIDEWALKS, PAVED AREAS, ACCUMULATED SILT IN PONDS, PLUS ALL ADJACENT AREAS AFFECTED BY CONSTRUCTION, AS DIRECTED BY THE OWNER OR JURISDICTIONAL AGENCY. EQUIPMENT TO CLEAN THESE SURFACES SHALL BE SUBJECT TO APPROVAL BY THE OWNER.

UTILITY GENERAL NOTES

1. THE UTILITY DATA SHOWN ON THESE PLANS WAS LOCATED BY THE RESPECTIVE UTILITY, OR IS BASED ON UTILITY DRAWINGS, MAPS, OR FIELD RECONNAISSANCE.

2. THE LOCATIONS OF ALL EXISTING UTILITIES SHOWN ON THE PLANS HAVE BEEN DETERMINED FROM THE BEST INFORMATION AVAILABLE AND ARE GIVEN FOR THE CONVENIENCE OF THE CONTRACTOR. THE ENGINEER ASSUMES NO RESPONSIBILITY FOR THEIR ACCURACY. PRIOR TO THE START OF ANY CONSTRUCTION ACTIVITY, IT SHALL BE THE CONTRACTORS RESPONSIBILITY TO NOTIFY THE VARIOUS UTILITIES AND TO MAKE THE NECESSARY ARRANGEMENTS FOR ANY RELOCATIONS OF THESE UTILITIES WITH THE OWNER OF THE UTILITY. THE CONTRACTOR SHALL EXERCISE CAUTION WHEN CROSSING AN UNDERGROUND UTILITY, WHETHER SHOWN ON THE PLANS OR LOCATED BY THE UTILITY COMPANY. ANY UTILITIES, WHETHER SHOWN ON THESE PLANS OR NOT, THAT INTERFERE WITH THE PROPOSED CONSTRUCTION SHALL BE CLOSELY COORDINATED WITH THE ENGINEER AND THE RESPECTIVE UTILITY COMPANY FOR RELOCATION OR PROPER INSTRUCTION.

3. A SINGLE POINT UTILITY IDENTIFICATION SERVICE HAS BEEN SET UP FOR EXISTING UTILITIES. THE CONTRACTOR IS TO CONTACT THE SUNSHINE STATE ONE CALL CENTER BY DIALING "811" AT LEAST TWO (2) AND NO MORE THAN FIVE (5) WORKING DAYS PRIOR TO THE SPECIFIC CONSTRUCTION ACTIVITY FOR FIELD LOCATION. NOTE THAT NOT ALL UTILITIES PARTICIPATE IN THIS PROGRAM. THE CONTRACTOR SHOULD CONTACT ALL NON-PARTICIPATING UTILITIES SEPARATELY FOR FIELD LOCATION OF THEIR FACILITIES AT LEAST TWO (2) WORKING DAYS PRIOR TO CONSTRUCTION. PER FLORIDA STATUTE 553.851, THE CONTRACTOR OR EXCAVATOR IS REQUIRED TO NOTIFY THE GAS COMPANY TWO (2) WORKING DAYS PRIOR TO STARTING EXCAVATION.

4. THE CONTRACTOR SHALL KEEP LOCATE TICKETS UP TO DATE AT ALL TIMES.

5. THE CONTRACTOR IS RESPONSIBLE FOR ALL COORDINATION WITH EACH UTILITY AND ALL COSTS ASSOCIATED WITH THE PROTECTION OF EXISTING FACILITIES DURING CONSTRUCTION. THE CONTRACTOR SHALL ALSO COORDINATE NECESSARY RELOCATIONS OR OTHER CONSTRUCTION RELATED MATTERS WITH EACH UTILITY.

6. IT SHALL BE THE CONTRACTORS RESPONSIBILITY TO MAINTAIN IN SERVICE ALL EXISTING PIPING ENCOUNTERED DURING CONSTRUCTION UNLESS OTHERWISE INDICATED IN THE DRAWINGS. ANY PIPING WHICH CAN BE REMOVED DURING CONSTRUCTION WITHOUT UNDUE INTERRUPTION OF SERVICE MAY BE REMOVED AND REPLACED BY THE CONTRACTOR WITH THE PERMISSION OF THE OWNER AND THE ENGINEER.

7. TYPICAL DETAILS AS SHOWN ARE TO ILLUSTRATE THE ENGINEERS INTENT AND ARE NOT PRESENTED AS A SOLUTION TO ALL CONSTRUCTION PROBLEMS ENCOUNTERED IN THE FIELD. THE CONTRACTOR MAY ALTER THE METHOD OF CONSTRUCTION TO SUIT FIELD CONDITIONS, PROVIDING HE SUBMITS A PROPOSAL FOR AN ALTERNATE METHOD TO THE ENGINEER FOR APPROVAL AND USES MATERIALS AS DESIGNATED IN THE SPECIFICATIONS.

8. FOR EACH RESPECTIVE PIPELINE CONSTRUCTION REQUIRED, THE CONTRACTOR SHALL FIELD VERIFY THE LOCATION, DEPTH, AND ALIGNMENT OF ALL EXISTING PIPES, CABLES, ETC. TO BE CROSSED OR CONNECTED TO. IF THE CONTRACTOR DEEMS NECESSARY (A) A CHANGE IN ALIGNMENT OR DEPTH, OR THE NEED FOR ADDITIONAL FITTINGS, BENDS, OR COUPLINGS, WHICH REPRESENT A DEPARTURE FROM THE CONTRACT DRAWING, OR (B) A NEED FOR RELOCATION OF EXISTING UTILITIES, THEN DETAILS OF SUCH DEPARTURES, RELOCATIONS, OR ADDITIONAL FITTINGS, INCLUDING CHANGES IN RELATED PORTIONS OF THE PROJECT AND THE REASONS THEREFORE, SHALL BE SUBMITTED WITH SHOP DRAWINGS. APPROVED DEPARTURES FOR THE CONTRACTORS CONVENIENCE SHALL BE MADE AT NO ADDITIONAL COST TO THE OWNER.

9. THE CONTRACTOR SHALL PROVIDE AT HIS OWN EXPENSE ALL NECESSARY TEST PUMPING EQUIPMENT, WATER, WATER METERS, PRESSURE GAUGES, AND OTHER EQUIPMENT, MATERIAL AND FACILITIES REQUIRED FOR ALL HYDROSTATIC, LEAKAGE, AND PRESSURE TESTING. THE CONTRACTOR SHALL CONTACT THE ENGINEER AND THE OWNER IN WRITTEN FORM, FORTY-EIGHT (48) HOURS IN ADVANCE OF PROPOSED TESTING. THE CONTRACTOR SHALL PERFORM SATISFACTORY PRETESTING PRIOR TO NOTIFICATION.

AS-BUILT DRAWING REQUIREMENTS

1. AS-BUILT DRAWINGS SHALL BE PROVIDED BY THE CONTRACTOR TO THE ENGINEER THREE WEEKS PRIOR TO FINAL INSPECTION. ALL AS-BUILT DATA SHALL BE PROVIDED BY A FLORIDA LICENSED SURVEYOR, SIGNED, SEALED AND DATED BY THE RESPONSIBLE PARTY.

2. AT THE COMPLETION OF THE WORK, DELIVER THE DRAWINGS DOCUMENTING AS-BUILT INFORMATION, MEASURED BY A LICENSED SURVEYOR, TO THE ENGINEER, IN GOOD CONDITION AND FREE FROM ANY EXTRANEOUS NOTATION. THE AS-BUILT INFORMATION IS TO INCLUDE, BUT NOT BE LIMITED TO, THE FOLLOWING:

A. HORIZONTAL LOCATIONS AND VERTICAL ELEVATIONS FOR ALL UTILITY AND STORM STRUCTURES INCLUDING BUT NOT LIMITED TO MANHOLES, INLETS AND CLEANOUTS, INCLUDING STRUCTURE TOP AND INVERT ELEVATIONS.

B. DISTANCE ALONG PIPELINES BETWEEN STRUCTURES.

C. STORMWATER POND TOP OF BERM AND POND BOTTOM ELEVATIONS AND HORIZONTAL DIMENSIONS MEASURED AT A MINIMUM OF TEN LOCATIONS PER POND, AT LOCATIONS DESIGNATED BY THE ENGINEER. TOP OF POND HORIZONTAL DIMENSIONS ARE ALSO TO BE TIED TO PROPERTY CORNERS, EASEMENTS, AND RIGHTS-OF-WAY.

D. STORMWATER CONTROL STRUCTURE DIMENSIONS AND ELEVATIONS, INCLUDING ALL WEIRS, SLOTS, ORIFICES, GRATES, AND SKIMMERS.

E. STORMWATER CONVEYANCE SYSTEMS INCLUDING DIMENSIONS, ELEVATIONS, CONTOURS, AND CROSS SECTIONS.

F. HORIZONTAL LOCATIONS AND VERTICAL ELEVATIONS OF ALL UTILITY VALVES, FITTINGS, CONNECTION POINTS, ETC.

G. VERTICAL ELEVATIONS OF ALL PIPELINES AT CROSSINGS OF POTABLE WATER MAINS (WHETHER THE WATER MAIN IS EXISTING OR NEW) IN ORDER TO DOCUMENT THAT THE MINIMUM REQUIRED VERTICAL SEPARATION HAS BEEN MET.

H. UTILITY PIPELINE TIED HORIZONTALLY TO EDGE OF PAVEMENT AND RIGHT-OF-WAY LINES, LOCATED EVERY 200-FT PLUS ALL CHANGES IN HORIZONTAL OFFSET.

I. PAVEMENT WIDTH AND ELEVATIONS AT THE CENTERLINE AND EDGE OF PAVEMENT EVERY 200 FEET PLUS AT ALL CHANGES IN LONGITUDINAL SLOPE, CROSS SLOPE, INLET LOCATIONS, AND AT ALL DRIVEWAY AND STREET INTERSECTIONS. FOR PARKING LOTS, RECORD CENTERLINE AND EDGE OF PAVEMENT ELEVATIONS ALONG ALL DRIVE AISLES AND ISLANDS.

J. ALL PARKING AREAS AND SIDEWALK RAMPS DESIGNATED FOR HANDICAP ACCESS SHALL CONTAIN HORIZONTAL AND VERTICAL MEASUREMENTS IN ORDER TO VERIFY REQUIRED WIDTHS AND SLOPES HAVE BEEN MET.

K. HORIZONTAL AND VERTICAL DATA FOR ANY CONSTRUCTION THAT DEVIATES FROM THE APPROVED ENGINEERING DRAWINGS.

L. WHERE THE PLANS CONTAIN SPECIFIC HORIZONTAL LOCATION DATA, SUCH AS STATION AND OFFSET, THE AS-BUILT DRAWINGS ARE TO REFLECT THE ACTUAL HORIZONTAL LOCATION.

M. WHERE THE PLANS CONTAIN SPECIFIC VERTICAL ELEVATION DATA, THE AS-BUILT DRAWINGS ARE TO REFLECT THE ACTUAL MEASURED VERTICAL ELEVATION.

EROSION AND SEDIMENT CONTROL

1. EROSION AND SEDIMENT CONTROL MEASURES ARE TO BE PROVIDED AND INSTALLED PRIOR TO COMMENCEMENT OF CONSTRUCTION. SEDIMENT CONTROL CONSISTS OF SILT FENCING AND FLOATING TURBIDITY BARRIERS PER FDOT INDEX NO. 102 AND 103. EROSION CONTROL CONSISTS OF SEEDING AND MULCHING, SODDING, WETTING SURFACES, PLACEMENT OF COARSE AGGREGATE, TEMPORARY PAVING.

2. MAINTAIN TEMPORARY EROSION CONTROL SYSTEMS AS DIRECTED BY OWNER OR GOVERNING AUTHORITIES TO CONTROL EROSION AND SILTATION DURING LIFE OF CONTRACT. OWNER HAS AUTHORITY TO LIMIT SURFACE AREA OF ERODIBLE EARTH MATERIAL EXPOSED BY CLEARING AND GRUBBING, EXCAVATION, TRENCHING, BORROW AND EMBANKMENT OPERATIONS. OWNER ALSO HAS AUTHORITY TO DIRECT CONTRACTOR TO PROVIDE IMMEDIATE PERMANENT OR TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES.

3. CONTRACTOR SHALL RESPOND TO EROSION AND SEDIMENT CONTROL MAINTENANCE REQUIREMENTS OR IMPLEMENT ADDITIONAL MEASURES TO CONTROL EROSION ORDERED BY OWNER OR GOVERNING AUTHORITIES WITHIN 48 HOURS OR SOONER IF REQUIRED AT NO ADDITIONAL COST TO THE OWNER.

4. CONTRACTOR WILL BE REQUIRED TO INCORPORATE PERMANENT EROSION CONTROL FEATURES INTO PROJECT AT EARLIEST PRACTICAL TIME TO MINIMIZE NEED FOR TEMPORARY CONTROLS.

5. THE EROSION AND SEDIMENT CONTROL MEASURES SHOWN ON THE PLANS REPRESENT A MINIMUM REQUIREMENT. THE CONTRACTOR IS RESPONSIBLE FOR DETERMINING ADDITIONAL EROSION AND SEDIMENT CONTROL MEASURES NEEDED IN ORDER TO PREVENT THE TRANSFER OF SEDIMENT FROM THE PROJECT AREA AND PREVENT THE EROSION OF SURFACES DURING CONSTRUCTION, AS NEEDED TO PROTECT ADJACENT PROPERTIES AND WATER BODIES.

6. GRASS ALL DISTURBED AREAS WITHIN 7 DAYS OF INITIAL DISTURBANCE. TYPE OF GRASSING SHALL BE AS FOLLOWS: TEMPORARY GRASSING TO BE SODDING AT ALL DRAINAGE STRUCTURES, RETENTION AREAS, SWALES AND DITCHES, AND WHERE SLOPES ARE STEEPER THAN 5:1. TEMPORARY GRASSING CAN BE SEED AND MULCH AT ALL OTHER LOCATIONS UNLESS OTHERWISE INDICATED IN THE DRAWINGS OR SPECIFICATIONS.

7. INSPECT EVERY TWO WEEKS DURING CONSTRUCTION. REMOVE ANY SEDIMENT BUILD-UP. REPAIR AND REINSTALL ANY DAMAGED OR MISSING SEDIMENT CONTROL MEASURES. INSTALL ADDITIONAL MEASURES IF INSPECTION REVEALS ADDITIONAL SEDIMENTATION CONTROL IS NECESSARY.

8. AREAS TO BE PAVED SHALL BE TREATED WITH A BITUMINOUS PRIME COAT AND SANDED TO MINIMIZE EROSION, WHERE PAVING IS SCHEDULED TO OCCUR MORE THAN 48 HOURS AFTER INSTALLATION OF BASE COURSE. AREAS TO RECEIVE CONCRETE PAVING SHALL BE EITHER PROTECTED WITH A LAYER OF FDOT COARSE AGGREGATE MATERIAL OR SHALL BE PAVED WITHIN 48 HOURS OF INSTALLATION OF THE SUBGRADE. INSTALL FINAL SURFACE COURSES WITHIN 14 DAYS AFTER REMOVAL OF EXISTING PAVEMENT.

TRAFFIC CONTROL

1. THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING A MAINTENANCE OF TRAFFIC (M.O.T.) PLAN PRIOR TO CONSTRUCTION. THE M.O.T. PLAN SHALL SHOW ALL PROPOSED TRAFFIC CONTROL SIGNS, PAVEMENT MARKINGS, AND BARRICADES, AND SHALL DETAIL ALL PROPOSED CONSTRUCTION SEQUENCING. THE M.O.T. PLAN SHALL BE APPROVED BY THE ENGINEER, OWNER, AND ROADWAY JURISDICTIONAL AGENCY PRIOR TO CONSTRUCTION. ALL PROPOSED ROADWAY AND DRIVEWAY LANE CLOSURES SHALL BE RESTRICTED TO THE HOURS BETWEEN 9:00 A.M. AND 4:00 P.M. UNLESS OTHERWISE AUTHORIZED IN THE APPROVED M.O.T.

2. ALL CONSTRUCTION SIGNING AND MARKINGS SHALL BE INSTALLED PRIOR TO CONSTRUCTION AND MAINTAINED DURING CONSTRUCTION IN ACCORDANCE WITH FDOT INDEX NO. 600 AND THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD). THE PLACEMENT OF THE SIGNING AND MARKINGS SHALL BE APPROVED IN THE FIELD BY THE ENGINEER PRIOR TO CONSTRUCTION.

3. INSPECT TRAFFIC CONTROL DEVICES ON A DAILY BASIS TO ENSURE PLACEMENT OF BARRICADES AND FUNCTION OF LIGHTS IS MAINTAINED THROUGHOUT CONSTRUCTION.

4. CONTACT PROPERTY OWNERS AFFECTED BY CONSTRUCTION. COORDINATE TEMPORARY DRIVEWAY CLOSURES AND SEQUENCING. MAINTAIN ACCESS FOR ALL PROPERTY OWNERS DURING CONSTRUCTION.

5. WET UNSTABILIZED AREAS AS NECESSARY TO CONTROL DUST.

6. ADJUST TRAFFIC CONTROL DEVICES AS REQUIRED UNDER EMERGENCY CONDITIONS.

7. THE CONTRACTOR IS EXPECTED TO COORDINATE ITS ACTIVITIES WITH OTHER CONTRACTORS WHO MAY BE WORKING IN THE IMMEDIATE VICINITY.

8. WHEN WORK OCCURS WITHIN 15-FT OF ACTIVE ROAD TRAVEL LANES BUT NO CLOSER THAN 2-FT FROM THE EDGE OF PAVEMENT, SIGNAGE AND WARNING DEVICES ARE TO BE INSTALLED IN ACCORDANCE WITH FDOT INDEX NO. 600 AND 602, FOR A 2-LANE ROADWAY AND PER INDEX # 612 FOR A 4 LANE HIGHWAY.

9. TYPE I OR TYPE II BARRICADES AT 20-FT CENTERS SHALL BE PLACED AND MAINTAINED ALONG THE EDGE OF THE ROAD WHEREVER DROP-OFFS OR OTHER HAZARDS EXIST AND TO BLOCK ENTRANCE INTO COMPLETED OR PARTIALLY COMPLETED PAVEMENTS UNTIL SUCH PAVEMENTS ARE OPEN TO PUBLIC USE.

SITE PREPARATION

1. UNLESS OTHERWISE DIRECTED BY THE OWNER OR ENGINEER, THE CONTRACTOR IS EXPECTED TO CONTAIN ALL CONSTRUCTION ACTIVITIES WITHIN THE PROPERTY, RIGHT-OF-WAY, AND EASEMENTS AS INDICATED ON THE DRAWINGS. AT NO TIME SHALL THE CONTRACTOR DISTURB SURROUNDING PROPERTIES OR TRAVEL ON SURROUNDING PROPERTIES WITHOUT WRITTEN CONSENT FROM THE PROPERTY OWNER. ANY REPAIR OR RECONSTRUCTION OF DAMAGED AREAS IN SURROUNDING PROPERTIES SHALL BE REPAIRED BY THE CONTRACTOR ON AN IMMEDIATE BASIS. ALL COSTS FOR REPAIRS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR AND NO EXTRA COMPENSATION SHALL BE PROVIDED.

2. STAKE OUT THE CONSTRUCTION, ESTABLISH LINES AND LEVELS, TEMPORARY BENCH MARKS, BATTER BOARDS, CENTERLINES, BASELINES, AND REFERENCE POINTS FOR THE WORK, AND VERIFY ALL DIMENSIONS RELATING TO INTERCONNECTION WITH EXISTING FEATURES. REPORT ANY INCONSISTENCIES IN THE PROPOSED GRADES, LINES AND LEVELS, DIMENSIONS AND LOCATIONS TO THE ENGINEER BEFORE COMMENCING WORK.

3. PROTECT ALL TREES AND SHRUBS LOCATED OUTSIDE THE RIGHT-OF-WAY, EASEMENTS, AND OWNER SECURED PROPERTY, PARTICULARLY THOSE TREES AND SHRUBS LOCATED ADJACENT TO WORK AREAS.

4. WITHIN THE RIGHT-OF-WAY, EASEMENTS, AND OWNER SECURED PROPERTY, THE INTENT IS TO ALLOW TREES AND SHRUBS TO REMAIN IN ACCORDANCE WITH THE FOLLOWING SCHEDULE: NEW ROADWAY CONSTRUCTION - TREES AND SHRUBS TO REMAIN WHERE LOCATED MORE THAN 15 FEET FROM THE BACK OF CURB, OR OUTSIDE THE LIMITS OF EXCAVATION OR FILL AREAS, WHICHEVER IS FURTHER. UTILITY PIPELINE CONSTRUCTION - TREES AND SHRUBS TO REMAIN OUTSIDE A 15 FOOT WIDE PATH, CENTERED ON THE PIPELINE.

5. TREES TO REMAIN IN THE CONSTRUCTION AREA SHALL BE BOXED, FENCED OR OTHERWISE PROTECTED IN ACCORDANCE WITH DETAILS ON THE DRAWINGS. DO NOT PERMIT HEAVY EQUIPMENT OR STOCKPILES WITHIN BRANCH SPREAD

6. AREAS TO RECEIVE CLEARING AND GRUBBING SHALL INCLUDE ALL AREAS TO BE OCCUPIED BY THE PROPOSED IMPROVEMENTS, AREAS FOR FILL AND SITE GRADING, AND BORROW SITES. REMOVE TREES OUTSIDE OF THESE AREAS ONLY AS INDICATED ON THE DRAWINGS OR AS APPROVED IN WRITING BY THE ENGINEER.

7. CLEARING SHALL CONSIST OF REMOVING TREES AND BRUSH AND DISPOSAL OF OTHER MATERIALS THAT ENCROACH UPON OR OTHERWISE OBSTRUCT THE WORK.

8. EXERCISE EXTREME CARE DURING THE CLEARING AND GRUBBING OPERATIONS. DO NOT DAMAGE EXISTING STRUCTURES, PIPES OR UTILITIES.

9. GRUBBING SHALL CONSIST OF REMOVING AND DISPOSING OF STUMPS, ROOTS LARGER THAN T IN DIAMETER, AND MATTED ROOTS. REMOVE TO A DEPTH OF NOT LESS THAN 18" BELOW THE ORIGINAL SURFACE LEVEL OF THE GROUND.

10. ALL COMBUSTIBLE DEBRIS AND REFUSE FROM SITE PREPARATION OPERATIONS SHALL BE REMOVED TO LEGAL OFFSITE DISPOSAL AREAS.

GRADING

1. GRADING SHOWN ON THESE PLANS ARE PROVIDED TO THE CONTRACTOR TO EXPRESS THE GENERAL GRADING INTENT OF THE PROJECT. THE CONTRACTOR SHALL BE EXPECTED TO GRADE THE ENTIRE SITE TO PROVIDE POSITIVE DRAINAGE IN ALL AREAS THROUGHOUT THE SITE. SMOOTH TRANSITIONS SHALL BE PROVIDED BETWEEN CONTOURS OR SPOT ELEVATIONS AS SHOWN ON THE PLANS TO ACCOMPLISH THE GRADING INTENT. ALL SLOPES SHALL BE STABILIZED IMMEDIATELY AFTER FINAL GRADING HAS BEEN COMPLETED. CONTRACTOR SHALL NOTIFY OWNER AND ENGINEER PRIOR TO DEMOBILIZATION OF GRADING EQUIPMENT TO DETERMINE THAT THE GRADING INTENT HAS BEEN ACHIEVED.

2. ALL PAVING SURFACES IN INTERSECTIONS AND ADJACENT SECTIONS SHALL BE GRADED TO DRAIN POSITIVELY AND TO PROVIDE A SMOOTHLY TRANSITIONED DRIVING SURFACE FOR VEHICLES WITH NO SHARP BREAKS IN GRADE, AND NO UNUSUALLY STEEP OR REVERSE CROSS SLOPES. THE STANDARD CROWN MAY HAVE TO BE CHANGED IN ORDER TO DRAIN POSITIVELY IN THE AREA OF INTERSECTIONS. IT IS THE CONTRACTORS RESPONSIBILITY TO ACCOMPLISH THE ABOVE AND THE ENGINEER SHALL BE CONSULTED SO THAT HE MAY MAKE ANY AND ALL REQUIRED INTERPRETATIONS OF THE PLANS OR GIVE SUPPLEMENTARY INSTRUCTIONS TO ACCOMPLISH THE INTENT OF THE PLANS.

3. UNIFORMLY SMOOTH GRADE THE SITE. DEPRESSIONS FROM SETTLEMENT SHALL BE FILLED AND COMPACTED. TOPS OF EMBANKMENTS AND BREAKS IN GRADE SHALL BE ROUNDED. FINISHED SURFACES SHALL BE REASONABLY SMOOTH, COMPACTED, FREE FROM IRREGULAR SURFACE CHANGES AND COMPARABLE TO THE SMOOTHNESS OBTAINED BY BLADE_GRADER OPERATIONS.

4. SLOPE GRADES TO DRAIN AWAY FROM STRUCTURES AT A MINIMUM OF 'A-INCH PER FOOT FOR 10 FEET. FINISHED SURFACES ADJACENT TO PAVED AREAS AND WITHIN 10 FEET OF STRUCTURES SHALL BE WITHIN 1 INCH OF THE PROPOSED GRADE. ALL OTHER AREAS SHALL BE WITHIN 3 INCHES OF THE PROPOSED GRADE.

5. NEWLY GRADED AREAS SHALL BE PROTECTED FROM TRAFFIC AND EROSION. ALL SETTLEMENT OR WASHING AWAY THAT MAY OCCUR FROM ANY CAUSE PRIOR TO SEEDING OR ACCEPTANCE SHALL BE REPAIRED AND GRADES RE_ESTABLISHED TO THE REQUIRED ELEVATIONS AND SLOPES AT NO ADDITIONAL COST TO THE OWNER.

EXCAVATION, TRENCHING, AND FILL

1. THE CONTRACTOR SHALL RECOGNIZE AND ABIDE BY ALL OSHA EXCAVATION SAFETY STANDARDS, INCLUDING THE FLORIDA TRENCH SAFETY
ACT (FS 553.60-553.64). ANY MATERIAL, CONSTRUCTION METHODS, OR MATERIAL COST TO COMPLY WITH THESE LAWS SHALL BE INCIDENTAL TO THE CONTRACT.

2. ROUGH EXCAVATE AND GRADE ANY PROPOSED STORMWATER PONDS AT THE START OF SITE GRADING ACTIVITIES. DIRECT SITE RUNOFF TO
THE PONDS TO MINIMIZE RUNOFF TO OFFSITE AREAS.

3. POND CONSTRUCTION SHALL RESULT IN THE FINISHED POND HAVING SIDE SLOPES AND DIMENSIONS THAT ARE IN ACCORDANCE WITH THE
CONSTRUCTION DRAWINGS. IT IS THE CONTRACTORS SOLE RESPONSIBILITY TO ENSURE THAT THESE REQUIREMENTS HAVE BEEN MET. IF THE CONSTRUCTED SIDE SLOPES ARE STEEPER THAN THE REQUIRED SIDE SLOPES, OR THE POND VOLUME IS NOT WITHIN THREE (3) PERCENT OF THE DESIGN VOLUME, THE CONTACTOR MAY BE REQUIRED TO MAKE CORRECTIONS TO THE POND AT NO ADDITIONAL COST TO THE OWNER.

4. FIELD DENSITY TESTING FREQUENCIES: A) ONE TEST FOR EACH 10,000 SQUARE FEET OR FRACTION THEREOF PER LIFT OF GENERAL
BACKFILLING, MINIMUM 2 TESTS EACH LAYER; B) ONE TEST FOR EACH 100 SQUARE FEET OR FRACTION THEREOF OF BACKFILL AROUND AND UNDER STRUCTURES; C) ONE TEST FOR EACH 300 LINEAL FEET OR FRACTION THEREOF PER LIFT OF GENERAL BACKFILLING IN THE PIPELINE TRENCH; D) ONE TEST PER LIFT PER EACH CHANGE IN TYPE OF FILL; E) ONE TEST PER 1000 SQUARE FEET OF PAVEMENT SUBGRADE, MINIMUM OF 2 TESTS.

5. IT IS INTENDED THAT PREVIOUSLY EXCAVATED MATERIALS CONFORMING TO THE FOLLOWING REQUIREMENTS BE UTILIZED WHEREVER
POSSIBLE.

A. ACCEPTABLE MATERIALS: AASHTO M145 CLASSIFICATION A-1, A-3, A-2-4, A-2-6; ASTM D2487 CLASSIFICATION GW, GP, GM, SM, SW, SP;
UNLESS OTHERWISE DISAPPROVED WITHIN THE SOIL AND SUBSURFACE INVESTIGATION REPORTS. NO MORE THAN 12% OF ACCEPTABLE MATERIALS SHALL PASS THE NUMBER 200 SIEVE.

B. UNACCEPTABLE MATERIALS: AASHTO M145 CLASSIFICATION A-2-5, A-2-7, A-4, A-5, A-6, A-7, A-8; ASTM D2487 CLASSIFICATION GC, SC, ML,
MH, CL, CH, OL, OH, PT; UNLESS OTHERWISE APPROVED WITHIN THE SOIL AND SUBSURFACE INVESTIGATION REPORTS.

6. PROVIDE BARRIERS, WARNING LIGHTS AND OTHER PROTECTIVE DEVICES AT ALL EXCAVATIONS.

7. SIDEWALKS, ROADS, STREETS, AND PAVEMENTS SHALL NOT BE BLOCKED OR OBSTRUCTED BY EXCAVATED MATERIALS, EXCEPT AS AUTHORIZED
BY THE ENGINEER, IN WHICH CASE ADEQUATE TEMPORARY PROVISIONS MUST BE MADE FOR SATISFACTORY TEMPORARY PASSAGE OF PEDESTRIANS, AND VEHICLES. MINIMIZE INCONVENIENCE TO PUBLIC TRAVEL OR TO TENANTS OCCUPYING ADJOINING PROPERTY.

8. FURNISH, INSTALL, AND MAINTAIN, WITHOUT ADDITIONAL COMPENSATION, SHEETING, BRACING, AND SHORING SUPPORT REQUIRED TO KEEP
EXCAVATIONS WITHIN THE PROPERTY OR EASEMENTS PROVIDED, TO SUPPORT THE SIDES OF THE EXCAVATION, AND TO PREVENT ANY MOVEMENT WHICH MAY DAMAGE ADJACENT PAVEMENTS OR STRUCTURES, DAMAGE OR DELAY THE WORK, OR ENDANGER LIFE AND HEALTH. VOIDS OUTSIDE THE SUPPORTS SHALL BE IMMEDIATELY FILLED AND COMPACTED.

9. ALL EXCAVATIONS SHALL BE MADE BY OPEN CUT UNLESS OTHERWISE INDICATED. SLOPE SIDES OF TRENCHES IN ACCORDANCE WITH OSHA
REQUIREMENTS AND THE RECOMMENDATIONS CONTAINED WITHIN THE PROJECT GEOTECHNICAL REPORT.

10. EXCAVATE TRENCHES TO DEPTH INDICATED OR REQUIRED FOR INDICATED FLOW LINES AND INVERT ELEVATIONS. OVER EXCAVATE TRENCHES
A MINIMUM OF 2 FEET WHERE EXCAVATIONS OCCUR WITHIN UNSUITABLE SOILS, AND REPLACE OVER EXCAVATED MATERIAL WITH SUITABLE SOILS.

11. EXCEPT AS OTHERWISE INDICATED, EXCAVATE FOR PRESSURE PIPING SO TOP OF PIPING IS MINIMUM 3 FEET BELOW FINISHED GRADE.

12. TRENCH BOTTOMS AND THE BOTTOMS OF ALL STRUCTURES SHALL BE KEPT DRY, COMPACTED, AND STABLE TO A DEPTH TWO FEET BELOW THE
BOTTOM OF THE TRENCH OR STRUCTURE.

13. ALL BEDDING, FILL, AND BACKFILL MATERIAL SHALL BE SUITABLE SOILS OR FLOWABLE FILL. WHERE TRENCH OR EXCAVATION IS WITHIN THE
INFLUENCE AREA OF ROADWAYS, STRUCTURES, FOUNDATIONS, OR SLABS, PLACE BACKFILL IN LAYERS OF 8 INCH LOOSE DEPTH. IN ALL OTHER AREAS, PLACE FILL AND BACKFILL IN LAYERS OF 12 INCH LOOSE DEPTH.

14. MINIMUM DENSITY REQUIREMENT (ASTM D1557 OR AASHTO T180): BACKFILL AND FILL UNDER AND WITHIN THE INFLUENCE AREA OF ROADWAYS,
STRUCTURES, SLABS, FOUNDATIONS = 98 PERCENT; BACKFILL AND FILL PLACED WITHIN PUBLIC ROAD RIGHT-OF-WAY AND UTILITY EASEMENTS = 95 PERCENT; BACKFILL AND FILL PLACED WITHIN POND AND ROAD EMBANKMENT = 95 PERCENT; BACKFILL AND FILL PLACED IN ALL OTHER AREAS = 90 PERCENT.

UTILITY SEPARATION REQUIREMENTS

1. THE HORIZONTAL SEPARATION BETWEEN WATER MAINS AND SANITARY SEWER, STORM SEWER, WASTEWATER FORCE MAINS, STORMWATER FORCE MAINS, RECLAIMED WATER MAINS AND ONSITE SEWAGE TREATMENT AND DISPOSAL SYSTEMS SHALL BE IN ACCORDANCE WITH THE FOLLOWING:

A. THE OUTSIDE OF WATER MAINS SHALL BE A MINIMUM OF THREE FEET FROM THE OUTSIDE OF ANY EXISTING OR PROPOSED STORM SEWER, STORMWATER FORCE MAIN, VACUUM TYPE SANITARY SEWER AND RECLAIMED WATER MAIN.

B. THE OUTSIDE OF WATER MAINS SHALL BE A MINIMUM OF SIX FEET FROM THE OUTSIDE OF ANY EXISTING OR PROPOSED GRAVITY SANITARY SEWER AND WASTEWATER FORCE MAIN. THE MINIMUM HORIZONTAL SEPARATION DISTANCE BETWEEN THE OUTSIDE OF WATER MAINS AND THE OUTSIDE OF GRAVITY SANITARY SEWERS CAN BE REDUCED TO THREE FEET WHERE THE BOTTOM OF THE WATER MAIN IS AT LEAST SIX INCHES ABOVE THE TOP OF THE SEWER.

C. THE OUTSIDE OF WATER MAINS SHALL BE A MINIMUM OF TEN FEET FROM ALL PARTS OF ANY EXISTING OR PROPOSED ONSITE SEWAGE TREATMENT AND DISPOSAL SYSTEM SUCH AS SEPTIC TANKS, DRAINFIELDS, AND GREASE TRAPS. ONSITE SEWAGE TREATMENT AND DISPOSAL SYSTEMS DO NOT INCLUDE PACKAGE SEWAGE TREATMENT FACILITIES AND PUBLIC WASTEWATER TREATMENT FACILITIES.

2. THE VERTICAL SEPARATION BETWEEN WATER MAINS AND SANITARY AND STORM SEWER, WASTEWATER OR STORMWATER FORCE MAINS, AND RECLAIMED WATER MAINS SHALL BE IN ACCORDANCE WITH THE FOLLOWING:

A. WHEREVER POSSIBLE, WATER MAINS SHALL CROSS OVER EXISTING OR PROPOSED GRAVITY SANITARY SEWER, VACUUM TYPE SANITARY SEWER, AND STORM SEWER, SO THE OUTSIDE OF THE WATER MAIN IS AT LEAST SIX INCHES ABOVE THE OUTSIDE OF THE SEWER. WHERE IT IS NOT POSSIBLE FOR THE WATER MAIN TO CROSS OVER EXISTING OR PROPOSED GRAVITY SANITARY SEWER, VACUUM TYPE SANITARY SEWER, AND STORM SEWER, THEN THE WATER MAIN CAN CROSS UNDER THESE TYPES OF PIPELINE SYSTEMS PROVIDED THE OUTSIDE OF THE WATER MAIN IS AT LEAST 12 INCHES BELOW THE OUTSIDE OF THE PIPELINE. AT THE CROSSING, THE PROPOSED PIPE JOINTS SHALL BE ARRANGED SO THAT ALL WATER MAIN JOINTS ARE AT LEAST THREE FEET FROM VACUUM TYPE SANITARY SEWER OR STORM SEWER JOINTS, AND AT LEAST SIX FEET FROM GRAVITY SANITARY SEWER JOINTS.

B. WHEREVER POSSIBLE, WATER MAINS SHALL CROSS OVER EXISTING OR PROPOSED RECLAIMED WATER MAINS, WASTEWATER FORCE MAINS AND STORMWATER FORCE MAINS. WHETHER THE WATER MAIN CROSSES OVER OR UNDER THESE TYPES OF PIPELINE SYSTEMS, THE OUTSIDE OF THE WATER MAIN SHALL BE AT LEAST 12 INCHES FROM THE OUTSIDE OF THE EXISTING OR PROPOSED RECLAIMED WATER MAIN, WASTEWATER FORCE MAIN AND STORMWATER FORCE MAIN. AT THE CROSSING, THE PROPOSED PIPE JOINTS SHALL BE ARRANGED SO THAT ALL WATER MAIN JOINTS ARE AT LEAST THREE FEET FROM RECLAIMED WATER MAIN JOINTS AND STORMWATER FORCE MAIN JOINTS, AND AT LEAST SIX FEET FROM THE JOINTS OF WASTEWATER FORCE MAINS.

3. NO WATER MAIN SHALL PASS THROUGH OR COME IN CONTACT WITH ANY PART OF A SANITARY SEWER MANHOLE.

4. NEW OR RELOCATED FIRE HYDRANTS SHALL BE LOCATED SUCH THAT THE UNDERGROUND DRAIN (WEEP HOLE) IS AT LEAST:

A. THREE FEET FROM ANY EXISTING OR PROPOSED STORM SEWER, STORMWATER FORCE MAIN, RECLAIMED WATER MAIN, OR VACUUM TYPE SANITARY SEWER.

B. SIX FEET FROM ANY EXISTING OR PROPOSED GRAVITY SANITARY SEWER AND WASTEWATER FORCE MAIN.

C. TEN FEET FROM ANY ONSITE SEWAGE TREATMENT AND DISPOSAL SYSTEM SUCH AS SEPTIC TANKS, DRAINFIELDS, AND GREASE TRAPS. ONSITE SEWAGE TREATMENT AND DISPOSAL SYSTEMS DO NOT INCLUDE PACKAGE SEWAGE TREATMENT FACILITIES AND PUBLIC WASTEWATER TREATMENT FACILITIES.

5. THE FOLLOWING ARE ACCEPTABLE ALTERNATIVE CONSTRUCTION VARIANCES WHERE IT IS NOT POSSIBLE TO MEET THE SEPARATION REQUIREMENTS, AND ARE ONLY TO BE IMPLEMENTED UPON RECEIPT OF EXPRESSED WRITTEN CONSENT FROM THE ENGINEER. IMPLEMENTATION OF THESE MEASURES WITHOUT THE EXPRESSED WRITTEN CONSENT OF THE ENGINEER COULD RESULT IN THE REQUIREMENT THAT THE INSTALLED UNAPPROVED MEASURES BE REMOVED AND REPLACED AT NO COST.

A. WHERE A WATER MAIN IS LESS THAN THE REQUIRED MINIMUM HORIZONTAL DISTANCE FROM ANOTHER PIPELINE AND OR WHERE A WATER MAIN CROSSES ANOTHER PIPELINE AND JOINTS IN THE WATER MAIN ARE LESS THAN THE MINIMUM REQUIRED DISTANCE BETWEEN THE JOINTS IN THE OTHER PIPELINE:

1) USE OF PRESSURE RATED PIPE CONFORMING TO AWWA STANDARDS FOR A GRAVITY OR VACUUM TYPE PIPELINE.

2) USE OF WELDED, FUSED, OR OTHERWISE RESTRAINED JOINTS FOR EITHER PIPELINE.

3) USE OF WATERTIGHT CASING PIPE OR CONCRETE ENCASEMENT AT LEAST FOUR INCHES THICK FOR EITHER PIPE.

B. WHERE A WATER MAIN IS LESS THAN THREE FEET HORIZONTALLY FROM ANOTHER PIPELINE AND OR WHERE A WATER MAIN CROSSES ANOTHER PIPELINE LESS THAN THE REQUIRED MINIMUM SEPARATION:

1) USE OF PIPE OR CASING PIPE, HAVING HIGH IMPACT STRENGTH (AT LEAST EQUAL TO 0.25 INCH THICK DUCTILE IRON PIPE), OR CONCRETE ENCASEMENT AT LEAST FOUR INCHES THICK FOR THE WATER MAIN AND FOR THE OTHER PIPELINE IF THE OTHER PIPELINE COVEYS WASTEWATER OR RECLAIMED WATER.

WATER AND RECLAIMED WATER DISTRIBUTION SYSTEMS

1. THE ENTITY THAT WILL OPERATE AND MAINTAIN THE WATER SYSTEMS SHOWN ON THESE PLANS IS THE CITY OF HALLANDALE BEACH. THE CONTRACTOR SHALL MEET ALL THE REQUIREMENTS OF THE CITY OF HALLANDALE BEACH.

2. ALL WATER AND RECLAIMED MAIN PIPE SHALL BE EITHER DUCTILE IRON OR PVC, UNLESS OTHERWISE INDICATED ON THE DRAWINGS.

3. INSTALL ALL WATER AND RECLAIMED MAINS AT A MINIMUM 36 INCHES OF COVER.

4. BURIED DUCTILE IRON PIPE SHALL CONFORM WITH ANSI/AWWA C150/A21.50 AND C151/ A21.51, AND SHALL HAVE A MINIMUM WORKING PRESSURE OF 150 PSI. BURIED PIPE SHALL COMPLY WITH THE FOLLOWING PRESSURE CLASS (PC) DESIGNATIONS UNLESS OTHERWISE INDICATED ON THE DRAWINGS: A) 12" DIAMETER AND SMALLER = PC 350; B) 14" THROUGH 24" DIAMETER = PC 250; C) 30" THROUGH 64" DIAMETER = PC 200.

5. EXPOSED PIPE 4" AND LARGER SHALL BE DUCTILE IRON FLANGED AND SHALL CONFORM WITH AWWA/ANSI C115/A21.15, AND SHALL HAVE A MINIMUM WORKING PRESSURE OF 150 PSI. FLANGED PIPE SHALL COMPLY WITH THE FOLLOWING THICKNESS CLASS (TC) DESIGNATIONS UNLESS OTHERWISE INDICATED ON THE DRAWINGS: A) 4" DIAMETER = TC 54; B) T THROUGH 24" DIAMETER = TC 53

6. DUCTILE IRON PIPE AND FITTINGS WITHIN 10 FEET OF GAS MAINS SHALL HAVE AN 8-MIL POLYETHYLENE WRAP IN ACCORDANCE WITH ANSI/AWWA C105/A21.5.

7. PVC PIPE 4" - 17 SHALL CONFORM TO AWWA C900. PIPE 14" - 36" SHALL CONFORM TO AWWA C905. PIPE SHALL CONFORM TO ASTM D1784, TYPE I, GRADE I, 4000 PSI DESIGN STRESS, AND SHALL BE NATIONAL SANITATION FEDERATION (NSF) APPROVED. PIPE SHALL BE CLASS 150 (DR18) WITH MARKINGS ON EACH SECTION SHOWING CONFORMANCE TO THE ABOVE SPECIFICATIONS. JOINTS SHALL BE RUBBER GASKETED CONFORMING TO AWWA C900 OR C905 THE BELL SHALL BE INTEGRAL WITH THE PIPE AND OF EQUAL OR GREATER PRESSURE RATING. THE BELL OF PIPE AND FITTINGS USING PUSH-ON JOINTS SHALL HAVE AN INTEGRAL GROOVE TO RETAIN THE GASKET IN PLACE.

8. ALL FITTINGS SHALL BE MANUFACTURED OF DUCTILE IRON, CONFORMING TO ANSI/AWWA C110/A21.10 OR ANSI/AWWA C153/A21.53. ALL FULL BODY (C110/A21.10) FITTINGS SHALL BE PRESSURE RATED TO 250 PSI, MINIMUM. ALL COMPACT FITTINGS (C153/A21.53) SHALL BE PRESSURE RATED TO 350 PSI, MINIMUM.

9. ALL DUCTILE IRON PIPE AND FITTINGS SHALL BE LINED AND COATED. INTERIOR LINING SHALL BE STANDARD THICKNESS CEMENT MORTAR LINING PER ANSI/AWWA C104/A21.4. EXTERIOR COATING FOR BURIED PIPE AND FITTINGS SHALL BE A PETROLEUM ASPHALTIC COATING IN ACCORDANCE WITH ANSI/AWWA C110/A21.10.
EXTERIOR COATING OF EXPOSED PIPE AND FITTINGS SHALL BE FACTORY APPLIED RUST INHIBITING EPDXY PRIMER, MINIMUM 3 MILS DRY FILM THICKNESS. AFTER INSTALLATION, EXTERIOR SURFACES SHALL BE PAINTED WITH TWO COATS TNEMEC SERIES 2 TNEME-GLOSS, GLIDDEN LIFE MASTER PRO HIGH PERFORMANCE ACRYLIC NO. 6900 SERIES, OR EQUAL, AT MINIMUM 4 MILS DRY FILM THICKNESS PER COAT. PAINT COLOR TO BE IN ACCORDANCE WITH LOCAL UTILITY REQUIREMENTS.

10. MECHANICAL AND PUSH ON JOINTS FOR DUCTILE IRON PIPE AND FITTINGS SHALL BE RUBBER GASKETED, CONFORMING TO ANSI/AWWA C111/A21.11. LUBRICANTS OTHER THAN THAT FURNISHED BY THE PIPE MANUFACTURER WITH THE PIPE SHALL NOT BE USED.

11. ALL FITTINGS SHALL BE RESTRAINED IN ACCORDANCE WITH DIPRA, "THRUST RESTRAINT DESIGNED FOR DUCTILE IRON PIPE". PIPE JOINTS SHALL BE RESTRAINED UPSTREAM AND DOWNSTREAM OF FITTINGS IN ACCORDANCE WITH THE MANUFACTURERS REQUIREMENTS OR THE TABLE SHOWN IN THE DRAWINGS, WHICHEVER IS GREATER. DUCTILE IRON RESTRAINED JOINTS SHALL BE AMERICAN FAST GRIP GASKET, FLEX-RING, FIELD FLEX RING, LOK-RING, US PIPE TR-FLEX, EBAA MEGALUG, OR EQUAL. PVC PIPE JOINTS SHALL BE RESTRAINED USING MECHANICAL DEVICES, UNI-FLANGE BLOCK BUSTER SERIES 1350 OR ENGINEER APPROVED EQUAL.

12. ALL SERVICE PIPING (W -T) SHALL BE POLYETHYLENE. SDR-PR PE PIPE SHALL BE MANUFACTURED FROM PE3408 AND SHALL CONFORM TO AWWA C901. ALL PIPE SHALL BE DR9, PRESSURE CLASS 200 PSI. PIPE AND FITTINGS SHALL BE NSF APPROVED FOR THE USAGE TO WHICH THEY ARE TO BE APPLIED. JOINTS IN SDR-PR PE PIPE SHALL BE BUTT HEAT FUSION OR SOCKET HEAT FUSION TYPE. FITTINGS SHALL BE MANUFACTURED OF THE SAME MATERIAL AS THE PIPE AND SHALL BE OF THE SAME SDR OR LESS. PROVIDE ADAPTERS AS REQUIRED TO JOIN PE PIPE TO PIPE, FITTINGS AND EQUIPMENT OF OTHER MATERIALS.

13. ALL SERVICE SADDLES SHALL CONSIST OF DUCTILE IRON BODIES IN ACCORDANCE WITH ASTM A536, WITH DOUBLE STAINLESS STEEL STRAPS, BOLTS, WASHERS AND NUTS. STAINLESS STEEL TO BE TYPE 304. NUTS TO BE TEFLON COATED. DUCTILE IRON BODY TO BE FUSION BONDED NYLON COATING, MINIMUM THICKNESS 12 MILS.
OUTLET OF SADDLE TO HAVE NPT THREADS.

14. ALL SERVICES SHALL INCLUDE THE FOLLOWING: CURB STOPS, UNIONS AS REQUIRED, CORPORATION STOPS. CONFORMANCE WITH AWWA C800 AND C901 IS REQUIRED. THE CONTRACTOR SHALL CUT "W" IN THE TOP CURB OF EACH WATER SERVICE AND A "V AT ALL VALVE LOCATIONS. CUT WS AND VS SHALL BE HIGHLIGHTED WITH BLUE PAINT.

15. UNLESS OTHERWISE NOTED IN THE PLANS, THE UTILITY COMPANY SHALL PROVIDE AND INSTALL WATER METERS AND RECLAIMED WATER METERS. CONTRACTOR SHALL CONSTRUCT WATER SERVICE AND RECLAIMED WATER SERVICE TO THE CORPORATION STOP.

16. UNLESS OTHERWISE INDICATED OR SPECIFIED, ALL VALVES TWO INCHES AND SMALLER SHALL BE ALL BRASS OR BRONZE; VALVES OVER TWO INCHES SHALL BE IRON BODY, FULLY BRONZE OR BRONZE MOUNTED.

17. VALVES 4 INCHES AND LARGER SHALL BE LINED AND COATED. INTERIOR OF VALVES SHALL BE COATED WITH A RUST INHIBITING EPDXY PRIMER, FOLLOWED BY A COAL TAR EPDXY, TOTAL MINIMUM DRY FILM THICKNESS OF 16 MILS, APPLIED AT THE FACTORY. EXTERIOR COATING ON BURIED VALVES SHALL BE RUST INHIBITING EPDXY PRIMER, FOLLOWED BY A COAL TAR EPDXY, TOTAL MINIMUM DRY FILM THICKNESS OF 16 MILS, APPLIED AT THE FACTORY. EXTERIOR COATING OF EXPOSED VALVES SHALL BE FACTORY APPLIED RUST INHIBITING EPDXY PRIMER, MINIMUM 3 MILS DRY FILM THICKNESS. AFTER INSTALLATION, EXTERIOR SURFACES SHALL BE PAINTED WITH TWO COATS TNEMEC SERIES 2 TNEME-GLOSS, GLIDDEN LIFE MASTER PRO HIGH PERFORMANCE ACRYLIC NO. 6900 SERIES, OR EQUAL, AT 4 MILS MINIMUM DRY FILM THICKNESS PER COAT. PAINT COLOR TO BE IN ACCORDANCE WITH LOCAL UTILITY REQUIREMENTS.

18. ALL VALVES 12" AND SMALLER SHALL BE GATE VALVES UNLESS OTHERWISE INDICATED ON THE DRAWINGS. GATE VALVES 3 INCHES TO 12 INCHES SHALL CONFORM TO AWWA C509. THE VALVES SHALL BE IRON BODY, CAST IRON FULLY ENCAPSULATED MOLDED RUBBER WEDGE COMPLYING WITH ASTM D2000, NON-RISING STEM WITH 0-RING SEALS. VALVES SHALL OPEN COUNTERCLOCKWISE.

19. TAPPING VALVES AND SLEEVES SHALL BE APPROVED AWWA TYPE OF THE SIZE REQUIRED. VALVES SHALL CONFORM TO THE REQUIREMENTS OF AWWA C509.

20. VALVES 14" AND LARGER SHALL BE BUTTERFLY VALVES. BUTTERFLY VALVES SHALL MEET OR EXCEED THE DESIGN STRENGTH, TESTING AND PERFORMANCE REQUIREMENTS OF AWWA C504, CLASS 150. VALVE BODY SHALL BE MECHANICAL JOINT END TYPE VALVE CONSTRUCTED OF CAST IRON OR DUCTILE IRON. DISC SHALL BE ONE PIECE CAST DESIGN WITH NO EXTERNAL RIBS TRANSVERSE TO FLOW. DISC SHALL BE CAST IRON OR DUCTILE IRON. THE RESILIENT SEAT SHALL MATE WITH A 304 OR 316 STAINLESS STEEL SURFACE.

21. VALVE SEATS SHALL BE MECHANICALLY RETAINED, AND MAY BE INSTALLED ON EITHER THE BODY OR DISC. 0-RING SEATS ON VALVE DISCS ARE UNACCEPTABLE.
SEATS FOR VALVES 14" DIAMETER AND LARGER SHALL BE FULLY FIELD REPLACEABLE WITHOUT THE USE OF SPECIAL TOOLS. OPERATORS OF THE ENCLOSED TRAVELING-NUT TYPE SHALL BE PROVIDED UNLESS OTHERWISE INDICATED.

22. ALL BURIED VALVES SHALL BE PROVIDED WITH ADJUSTABLE VALVE BOXES APPROXIMATELY 5 INCHES IN DIAMETER WITH A MINIMUM THICKNESS OF 3/16 INCH CAST IRON. BOXES SHALL BE OF SUFFICIENT LENGTH TO OPERATE ALL VALVES BURIED IN THE GROUND, CONSISTING OF BASE, CENTER SECTION, AND TOP SECTION WITH COVER. VALVE BOXES LOCATED IN UNPAVED AREAS SHALL BE SLIP TYPE DESIGN TO PERMIT MOVEMENT OF THE TOP SECTION WITHOUT TRANSMITTING FORCES ONTO THE VALVE BODY. VALVE BOXES CAST INTO CONCRETE OR ASPHALT SURFACING SHALL HAVE BRASS COVERS. ALL VALVE BOX COVERS SHALL BE INTERNALLY CHAINED TO VALVE BOXES WITH AN APPROXIMATELY 18 INCH GALVANIZED CHAIN. VALVE BOX COVERS SHALL BE CAST WITH THE INSCRIPTION 'WATER' OR "RECLAIMED WATER'.

23. PVC PIPE SHALL BE COLOR CODED BLUE (WATER MAINS) OR PURPLE (RECLAIMED WATER MAINS), STENCILED "WATER LINE" OR "RECLAIMED WATER LINE', AS APPLICABLE, (2" LETTERING ON TWO SIDES OF THE PIPE IN AT LEAST THREE AREAS PER PIPE SECTION).

24. INSTALL IDENTIFICATION TAPE ALONG ALL DUCTILE IRON PIPE AND PVC PIPE, MINIMUM THICKNESS 4 MILS, WIDTH 6 INCHES, LETTER SIZE 1 INCH. APPLY TAPE TO SURFACE OF PIPE, CONTINUOUSLY EXTENDING FROM JOINT TO JOINT. TAPE COLOR AND LETTERING SHALL BE BLACK PRINTING ON BLUE BACKGROUND (WATER MAINS), BLACK PRINTING ON PURPLE BACKGROUND (RECLAIMED WATER MAINS). PLACE TAPE AS FOLLOWS: 7 - 8" PIPE - CENTER ALONG TOP HALF OF PIPE; 10P - 18" PIPE - PLACE ALONG BOTH SIDES OF THE TOP HALF OF PIPE; 20" PIPE AND LARGER - PLACE ON BOTH SIDES OF TOP HALF OF PIPE WITH A THIRD STRIP CENTERED ALONG TOP HALF OF PIPE.

25. INSTALL WARNING TAPE ALONG ALL PIPELINES, PLACED 2 FEET ABOVE PIPE. TAPE SHALL BE 6-INCH WIDE VINYL CONTINUOUS TAPE. TAPE SHALL BE COLORED BLUE (WATER MAINS) OR PURPLE (RECLAIMED WATER MAINS) WITH BLACK LETTERING, CODED AND WORDED "CAUTION: WATER MAIN BURIED BELOW", OR "CAUTION: RECLAIMED WATER MAIN BURIED BELOW", APPLICABLE.

26. INSTALL LOCATING WIRE ALONG ALL PVC PIPELINES. WIRE SHALL BE COLOR-CODED 14 GAUGE CONTINUOUS INSULATED WIRE. COLOR CODING SHALL BE SIMILAR TO WARNING TAPE COLORS. INSTALL LOCATOR WIRE ALONG ALL PRESSURIZED PIPELINES 7 AND LARGER. LOOP WIRE INTO ALL VALVE BOXES. LOOPING TO OCCUR EVERY 500 FEET MINIMUM. WHERE THERE ARE NO VALVE BOXES TO ALLOW LOOPING, PROVIDE ACCESS BOXES PER CITY REQUIREMENTS. CHECK WIRE FOR ELECTRICAL CONTINUITY.

27. ALL CHANGES IN DIRECTION SHALL BE MADE WITH FITTINGS OR APPROVED JOINT DEFLECTION. BENDING OF PIPE, EXCEPT COPPER AND POLYETHYLENE, IS PROHIBITED. JOINT DEFLECTION SHALL NOT EXCEED 75% OF THE MANUFACTURERS RECOMMENDED MAXIMUM DEFLECTION.

28. TEST PROCEDURES SHALL BE APPROVED BY THE ENGINEER. ALL TESTS SHALL BE MADE IN THE PRESENCE OF THE ENGINEER AND UTILITY. NOTIFY THE ENGINEER AND THE UTILITY COMPANIES AT LEAST 72 HOURS BEFORE ANY WORK IS TO BE INSPECTED OR TESTED.

29. PROVIDE ALL EQUIPMENT FOR TESTING. INCREMENTS ON GAGES USED FOR LOW PRESSURE AIR TESTING SHALL BE OF SCALED TO THE NEAREST 0.1 PSI. GAGES, PUMPS, AND HOSES SHALL BE IN GOOD WORKING ORDER WITH NO NOTICEABLE LEAKS.

30. ALL SERVICE LINES SHALL BE COMPLETED PRIOR TO TESTING, AND ARE SUBJECT TO THE SAME TESTING REQUIREMENTS AS THE MAIN LINE.

31. APPLY HYDROSTATIC TEST PRESSURE OF 150 PSI (WATER MAINS), 200 PSI (FIRE MAINS), OR 100 PSI (RECLAIMED WATER MAINS) FOR 10 MINUTES AND FOR SUCH ADDITIONAL PERIOD NECESSARY FOR THE ENGINEER TO COMPLETE THE INSPECTION OF THE LINE UNDER TEST. DO NOT EXCEED PIPE MANUFACTURERS SUGGESTED TIME DURATION AT THE TEST PRESSURE. IF DEFECTS ARE NOTED, REPAIRS SHALL BE MADE AND THE TEST REPEATED UNTIL ALL PARTS OF THE LINE WITHSTAND THE TEST PRESSURE.

32. APPLY LEAKAGE TEST PRESSURE OF 150 PSI (WATER MAINS), 200 PSI (FIRE MAINS) OR 100 PSI (RECLAIMED WATER MAINS). MAINTAIN PRESSURE AT A MAXIMUM VARIATION OF 5% DURING THE ENTIRE LEAKAGE TEST. THE DURATION OF THE LEAKAGE TEST SHALL BE TWO HOURS MINIMUM, AND FOR SUCH ADDITIONAL TIME NECESSARY FOR THE ENGINEER TO COMPLETE INSPECTION OF THE SECTION OF LINE UNDER TEST. LEAKAGE MEASUREMENTS SHALL NOT BE STARTED UNTIL A CONSTANT TEST PRESSURE HAS BEEN ESTABLISHED. THE LINE LEAKAGE SHALL BE MEASURED BY MEANS OF A WATER METER INSTALLED ON THE SUPPLY SIDE OF THE PRESSURE PUMP.

33. NO LEAKAGE IS ALLOWED IN EXPOSED PIPING, BURIED PIPING WITH FLANGED, THREADED, OR WELDED JOINTS OR BURIED NON-POTABLE PIPING IN CONFLICT WITH POTABLE WATER LINES.

34. TESTED SECTIONS OF BURIED PIPING WITH SLIP-TYPE OR MECHANICAL JOINTS WILL NOT BE ACCEPTED IF IT HAS A LEAKAGE RATE IN EXCESS OF THAT RATE DETERMINED BY THE FORMULA L = SDP/133200 (AWWA C-600 DUCTILE IRON MAINS), OR L = NDP/7400 (AWWAC-605 - PVC MAIN); WHERE L = MAXIMUM PERMISSIBLE LEAKAGE RATE, IN GALLONS PER HOUR, THROUGHOUT THE ENTIRE LENGTH OF LINE BEING TESTED; S = LENGTH OF LINE TESTED (IN FEET); D = NOMINAL INTERNAL DIAMETER (IN INCHES) OF THE PIPE; N = NUMBER OF JOINTS ALONG LINE BEING TESTED; AND P = THE SQUARE ROOT OF THE ACTUAL PRESSURE IN PSIG ON ALL JOINTS IN THE TESTED PORTION OF THE LINE. THIS ACTUAL PRESSURE SHALL BE DETERMINED BY FINDING THE DIFFERENCE BETWEEN THE AVERAGE ELEVATION OF ALL TESTED PIPE JOINTS AND THE ELEVATION OF THE PRESSURE GAUGE AND ADDING THE DIFFERENCE IN ELEVATION HEAD TO THE AUTHORIZED TEST PRESSURE.

35. ALL APPARENT LEAKS DISCOVERED WITHIN ONE YEAR FROM THE DATE OF FINAL ACCEPTANCE OF THE WORK BY THE OWNER SHALL BE LOCATED AND REPAIRED BY CONTRACTOR, REGARDLESS OF THE TOTAL LINE LEAKAGE RATE.

36. DISINFECT ALL POTABLE WATER LINES, FIRE LINES, VALVES, FITTINGS, HYDRANTS.

37. ALL DISINFECTION WORK SHALL BE ACCEPTABLE TO THE STATE HEALTH AUTHORITY. IF ANY REQUIREMENTS OF THIS SECTION ARE IN CONFLICT WITH REQUIREMENTS OF THE AUTHORITY FOR DISINFECTION, THOSE OF THE AUTHORITY SHALL GOVERN. THE WATER MAIN DISINFECTION AND BACTERIOLOGICAL SAMPLING AND METHODS OF DISINFECTION FOR ALL WATER CONTAINMENT DEVICES AND PIPING SYSTEMS SHALL CONFORM TO AWWA C651.

FIRE PROTECTION SYSTEMS

1. COMBUSTIBLE CONSTRUCTION CANNOT OCCUR UNTIL PROPER DOCUMENTATION HAS BEEN SUBMITTED TO THE LOCAL FIRE MARSHAL. DOCUMENTATION SHALL SHOW THAT HYDRANTS HAVE BEEN INSTALLED, TESTED, AND ARE IN PROPER WORKING ORDER.

2. INSTALL ALL FIRE LINE PIPING AT A MINIMUM 36 INCHES OF COVER.

3. ALL FIRE LINE PIPING FROM POINT OF SERVICE AS DEFINED BY FS 633.021(16) SHALL BE C900 DR 14. THE FIRE LINE SHALL BE PRESSURE TESTED TO 200 PSI FOR A MINIMUM OF TWO HOURS, TESTED IN ACCORDANCE WITH NFPA 24-9-2.

4. THE CONTRACTOR INSTALLING THE UNDERGROUND FIRE PROTECTION PIPING SHALL HOLD A CLASS I, II, OR LEVEL V CERTIFICATION AS ISSUED BY THE STATE OF FLORIDA, AS REQUIRED BY FS 633.021(5).

5. ALL FIRE PROTECTION SPRINKLER SYSTEMS INSTALLED SHALL COMPLY WITH NFPA 13, AND SHALL BE MONITORED BY A COMPANY LISTED AS A CENTRAL STATION.

6. HYDRANTS SHALL CONFORM TO AWWA C502 AND SHALL BE FURNISHED COMPLETE WITH WRENCH AND OTHER APPURTENANCES. MANUFACTURERS CERTIFICATION OF COMPLIANCE WITH AWWA C502 AND TESTS LISTED THEREIN WILL BE REQUIRED.

7. ALL HYDRANTS SHALL BE OF BREAKABLE TYPE, WITH THE BREAKABLE SECTION LOCATED SLIGHTLY ABOVE THE FINISH GROUND LINE. HYDRANTS SHALL CONTAIN TWO-TWO AND A HALF INCH (2-112") HOSE CONNECTIONS AND ONE-FOUR AND A HALF INCH (4-1/7) STEAMER CONNECTIONS WITH NATIONAL STANDARD FIRE HOSE COUPLING SCREW THREADS, FIVE AND ONE QUARTER INCH (5-1/4") VALVE OPENING, SIX INCH (6") DIAMETER MECHANICAL JOINT INLET, ONE AND ONE-HALF INCH (1-1/2") PENTAGON OPERATING NUT. THE HYDRANTS SHALL OPEN COUNTERCLOCKWISE.

8. ALL HYDRANTS SHALL BE PAINTED IN AN APPROVED MANNER WITH THE PRIMER PAINT BEING KOPPER'S "GLAMORTEX" NO. 622 RUST PRIMER AND THE FINISH PAINT SHALL BE TWO COATS OF ENAMEL OR SPECIAL COATING TO COLOR AS REQUIRED BY THE LOCAL FIRE DEPARTMENT.

9. BLUE PAVEMENT REFLECTORS (CAT EYES) SHALL BE PLACED IN THE CENTERLINE OF THE DRIVING LANE DIRECTLY IN FRONT OF ALL FIRE HYDRANTS. THERE SHALL BE NO TREES, SHRUBS, OR LANDSCAPING PLANTED AROUND THE FIRE HYDRANTS OR IN AREAS DESIGNATED AS FIRE LANES.

10. NEW OR RELOCATED FIRE HYDRANTS SHALL BE LOCATED SUCH THAT THE UNDERGROUND DRAIN (WEEP HOLE) IS AT LEAST: THREE FEET FROM ANY EXISTING OR PROPOSED STORM SEWER, STORMWATER FORCE MAIN, RECLAIMED WATER MAIN, OR VACUUM TYPE SANITARY SEWER; SIX FEET FROM ANY EXISTING OR PROPOSED GRAVITY SANITARY SEWER AND WASTEWATER FORCE MAIN; AND TEN FEET FROM ANY ONSITE SEWAGE TREATMENT AND DISPOSAL SYSTEM SUCH AS SEPTIC TANKS, DRAINFIELDS, AND GREASE TRAPS. ONSITE SEWAGE TREATMENT AND DISPOSAL SYSTEMS DO NOT INCLUDE PACKAGE SEWAGE TREATMENT FACILITIES AND PUBLIC WASTEWATER TREATMENT FACILITIES.

11. THE CONTRACTOR SHALL PROVIDE A POST-CONSTRUCTION FIRE FLOW TEST WITNESSED AND APPROVED BY THE ENGINEER AND THE UTILITY. HYDRANTS SHALL DELIVER A MINIMUM OF 1250 GPM WITH A RESIDUAL PRESSURE OF 20 PSI.

SANITARY SEWER SYSTEMS

1. THE ENTITY THAT WILL OPERATE AND MAINTAIN THE SEWER SYSTEM SHOWN ON THESE PLANS IS THE CITY OF HOLLYWOOD. THE CONTRACTOR SHALL MEET ALL THE REQUIREMENTS OF THE CITY OF HOLLYWOOD.

2. PVC SEWER PIPE SHALL BE TYPE PSM PVC PIPE CONFORMING TO ASTM D3034 AND SHALL BE SDR 35 FOR 4" THROUGH 15", AND ASTM F 679, WALL THICKNESS T-1, FOR PIPE 18" THROUGH 27".

3. INSTALL ALL SEWER MAINS AT A MINIMUM 36 INCHES OF COVER.

4. JOINTS SHALL MEET THE REQUIREMENTS OF ASTM D3212 USING RUBBER GASKETS CONFORMING TO ASTM F477.

5. FITTINGS SHALL CONFORM TO THE SAME REQUIREMENTS AS THE PIPE. PROVIDE ADAPTERS AS REQUIRED TO JOIN PVC PIPE TO PIPE, FITTINGS AND EQUIPMENT OF OTHER MATERIALS. SOLVENT CEMENT SHALL BE AS RECOMMENDED BY THE PIPE MANUFACTURER.

6. PVC SEWER PIPE SHALL BE COLOR CODED GREEN, STENCILED "SEWER LINE" (2. LETTERING ON TWO SIDES OF THE PIPE IN AT LEAST THREE AREAS PER PIPE SECTION).

7. INSTALL ADHESIVE IDENTIFICATION TAPE ALONG PIPELINE. TAPE SHALL BE MINIMUM THICKNESS 4 MILS, WIDTH 6 INCHES, LETTER SIZE 1 INCH. TAPE COLOR AND LETTERING SHALL BE "SEWER LINE", BLACK PRINTING ON GREEN BACKGROUND. PLACE TAPE AS FOLLOWS: - 8" PIPE - CENTER ALONG TOP HALF OF PIPE; 10" - 18" PIPE - PLACE ALONG BOTH SIDES OF THE TOP HALF OF PIPE; 20" PIPE AND LARGER - PLACE ON BOTH SIDES OF TOP HALF OF PIPE WITH A THIRD STRIP CENTERED ALONG TOP HALF OF PIPE.

8. INSTALL WARNING TAPE ALONG ALL SEWER PIPELINES. TAPE SHALL BE 6-INCH WIDE VINYL CONTINUOUS TAPE, COLORED GREEN WITH BLACK LETTERING CODED AND WORDED "CAUTION: SEWER BURIED BELOW". INSTALL ALONG PIPELINE, 2 FEET ABOVE PIPE, MINIMUM OF 1 FOOT BELOW GRADE.

9. CONNECTIONS TO EXISTING SEWER SHALL BE CONDUCTED IN SUCH A MANNER THAT THE EXISTING SEWER REMAINS IN OPERATION. PROVIDE BY PASS PUMPING OF EXISTING FLOWS OR COLLECT AND LEGALLY DISPOSE OF EXISTING SEWER FLOW AS NEEDED TO ACCOMMODATE CONSTRUCTION WHILE KEEPING EXISTING SEWER IN SERVICE.

10. PRIOR TO INSPECTIONS AND TESTING, CLEAN ALL INSTALLED LINES AND MANHOLES. TEST PROCEDURES SHALL BE APPROVED BY THE ENGINEER. ALL TESTS SHALL BE MADE IN THE PRESENCE OF THE ENGINEER AND UTILITY. NOTIFY THE ENGINEER AND THE UTILITY COMPANIES AT LEAST 72 HOURS BEFORE ANY WORK IS TO BE INSPECTED OR TESTED.

11. PROVIDE ALL EQUIPMENT FOR TESTING. INCREMENTS ON GAGES USED FOR LOW PRESSURE AIR TESTING SHALL BE OF SCALED TO THE NEAREST 0.1 PSI. GAGES, PUMPS, AND HOSES SHALL BE IN GOOD WORKING ORDER WITH NO NOTICEABLE LEAKS.

12. ALL SERVICE LATERALS SHALL BE COMPLETED PRIOR TO TESTING, AND ARE SUBJECT TO THE SAME TESTING REQUIREMENTS AS THE MAIN LINE.

13. PROVIDE LIGHT SOURCE AND MIRRORS FOR LAMPING OF SEWER. ANY SEWER IN WHICH THE DIRECT LIGHT OF A LAMP CANNOT BE VIEWED IN EITHER DIRECTION, FULL CIRCLE, BETWEEN ADJACENT MANHOLES SHALL BE CONSIDERED UNSATISFACTORY, UNLESS THE LINE IS DESIGNED WITH HORIZONTAL DEFLECTIONS, AND SHALL BE REPAIRED BY THE CONTRACTOR WITHOUT ADDITIONAL COMPENSATION.

14. CONDUCT LOW PRESSURE AIR TESTING (4.0 PSI INITIAL PRESSURE) OF INSTALLED SEWER PIPING IN ACCORDANCE WITH ASTM F1417. MAXIMUM ALLOWABLE LEAKAGE IS 0.0015 CUBIC FEET PER MINUTE PER SQUARE FOOT INTERNAL SURFACE AREA BEING TESTED. ALLOWABLE AIR PRESSURE DROP DURING THE TEST IS 0.5 PSIG. MINIMUM REQUIRED TEST TIME (DURATION) IS: A) 4" PIPE = 1 MIN 53 SEC; B) 6" PIPE = 2 MIN 50 SEC, OR 0.427 X LENGTH OF PIPE TESTED, WHICHEVER IS GREATER; C) 8" PIPE = 3 MIN 47 SEC, OR 0.760 X LENGTH OF PIPE TESTED, WHICHEVER IS GREATER; D) 10" PIPE = 4 MIN 43 SEC, OR 1.187 X LENGTH OF PIPE TESTED, WHICHEVER IS GREATER; E) 12" PIPE = 5 MIN 40 SEC, OR 1.709 X LENGTH OF PIPE TESTED, WHICHEVER IS GREATER.

15. CONDUCT LEAKAGE TESTING OF MANHOLES. PLUG INVERTS AND FILL MANHOLE WITH WATER. ALLOWABLE WATER DROP IN MANHOLE TO BE FIELD DETERMINED BY UTILITY AND ENGINEER. MINIMUM TEST DURATION IS 1 HOUR.

16. CONDUCT DEFLECTION TESTING OF PIPELINE AFTER THE FINAL BACKFILL HAS BEEN IN PLACE AT LEAST 30 DAYS. MAXIMUM ALLOWABLE PIPE DEFLECTION IS 5%. MEASURE DEFLECTION BY MANUALLY PULLING A MANDREL THROUGH THE PIPE. THE MINIMUM MANDREL OUTER DIAMETER SHALL BE IN ACCORDANCE WITH THE FOLLOWING: 6" SEWER = 5.45" MANDREL; 8" SEWER = 7.28" MANDREL; 10" SEWER = 9.08" MANDREL; 12" SEWER = 10.79" MANDREL; 15" SEWER = 13.20" MANDREL; 18" SEWER = 16.13" MANDREL; 21" SEWER = 19.00" MANDREL; 24" SEWER = 21.36" MANDREL; 27" SEWER = 24.06" MANDREL.

17. DEFLECTION TESTING IS CONSIDERED SATISFACTORY IF THE MANDREL CAN BE PULLED BY HAND THROUGH THE PIPE BEING TESTED. IF THE MANDREL CANNOT BE PULLED THROUGH THE PIPE, REPLACE OR CORRECT THE PIPE AND RETEST UNTIL TESTING IS SATISFACTORY. ANY PIPE REMOVED OR CORRECTED DUE TO FAILING DEFLECTION TESTING SHALL ALSO BE RE-TESTED FOR LEAKAGE.

PRECAST STRUCTURES AND APPURTENANCES

1. ALL MANHOLES SHALL BE PRECAST CONSTRUCTION. THE MINIMUM SIZE DIAMETER OF MANHOLES SHALL BE 48" FOR SEWER LINES 21" IN DIAMETER OR LESS. INTEGRALLY CAST STEPS WITHIN PRECAST STRUCTURES ARE NOT ALLOWED.

2. BASES SHALL BE ONE-PIECE PRECAST BASE SECTIONS CONSISTING OF INTEGRALLY CAST SLAB, BOTTOM RING SECTION AND CONCRETE FLOW CHANNELS. BASE SECTIONS SHALL HAVE INTEGRAL INVERTS WITH GASKETS TO MATCH THE PIPE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING ALL INVERT ANGLES. PROVIDE OUTLET STUBS WITH JOINTS TO MATCH THE PIPE.

3. RISERS SHALL BE PRECAST REINFORCED CONCRETE PER ASTM C478, MANUFACTURED USING SULFATE RESISTANT CEMENT (ASTM C150, TYPE II). RISERS SHALL BE 48-INCH DIAMETER UNLESS OTHERWISE INDICATED AND SHALL HAVE A MINIMUM WALL THICKNESS OF 5 INCHES.

4. GASKETS FOR SEATING PRECAST SECTIONS SHALL BE COLD ADHESIVE PREFORMED PLASTIC GASKETS CONFORMING TO FDOT SPECIFICATION 942-2, UNLESS OTHERWISE INDICATED.

5. UNLESS OTHERWISE INDICATED, CONE TOP SECTIONS SHALL BE PRECAST, ECCENTRIC TYPE WITH 24-INCH DIAMETER TOP OPENING CONFORMING TO ASTM C478. PROVIDE 8-INCH MINIMUM THICKNESS FLAT SLAB TOPS WITH ECCENTRIC 24 INCH DIAMETER OPENING, UNLESS OTHERWISE INDICATED.

6. PROVIDE A FLEXIBLE WATERTIGHT SEAL OF THE PIPE TO THE MANHOLE. CONNECTION OF CONCRETE PIPE TO THE MANHOLE SHALL BE MADE WITH NON-SHRINK METALLIC GROUT. CONNECTION OF DUCTILE IRON OR PVC PIPE TO THE MANHOLE SHALL PROVIDE A WATERTIGHT CONNECTION PER ASTM C923. WHERE CONNECTORS ARE USED, THEY SHALL BE INSTALLED IN THE MANHOLE WALL BY ACTIVATING THE EXPANDING MECHANISM IN STRICT ACCORDANCE WITH THE RECOMMENDATION OF THE CONNECTOR MANUFACTURER. THE USE OF ADHESIVES OR LUBRICANTS FOR INSTALLATION OF RUBBER CONNECTORS IS PROHIBITED.

7. FRAMES AND COVERS SHALL BE GREY IRON PER ASTM A48, CLASS 30B AND SHALL BE US FOUNDRY TYPE 227AS, TRAFFIC BEARING (AASHTO H-20 LOADING), UNLESS OTHERWISE NOTED IN THE DRAWINGS. CASTINGS SHALL BE SMOOTH, CLEAN, FREE FROM BLISTERS, BLOWHOLES, AND SHRINKAGE. RAISED LETTERING ON COVERS SHALL BE "STORM", "SEWER", OR AS DETAILED ON THE DRAWINGS.

8. PROVIDE CAST IRON INLETS, FRAMES, AND GRATES IN ACCORDANCE WITH DETAILS ON THE DRAWINGS. ALL FRAMES AND INLET GRATES SHALL BE PRODUCTS OF U.S. FOUNDRY & MANUFACTURING CORPORATION, OR EQUAL.

9. ALL INLET GRATES SHALL BE SECURED BY CHAIN AND EYEBOLT TO THE TOP OF THE STRUCTURE.

10. MANHOLE COATINGS AND FINISHES SHALL BE:

A. SANITARY SEWER MANHOLE INTERIOR - BITUMINOUS EPDXY COATING, MINIMUM DRY FILM THICKNESS = 16 MILS.

B. INTERIOR OF MANHOLES WHICH RECEIVE FORCE MAIN DISCHARGE - INTEGRALLY ATTACHED INTERIOR LINER, FULL HEIGHT, FIBERGLASS LINER. LINER THICKNESS TO BE IN ACCORDANCE WITH THE DRAWINGS.

C. EXTERIOR - BITUMINOUS EPDXY COATING, MINIMUM DRY FILM THICKNESS = 16 MILS.

11. AS-BUILT INFORMATION SHALL INCLUDE ALL RIM, TOP AND INVERT ELEVATIONS FOR ALL PRECAST STRUCTURES.

STORM SEWER SYSTEMS

1. ALL STORM SEWER PIPE SHALL BE REINFORCED CONCRETE PIPE (RCP) UNLESS OTHERWISE INDICATED ON THE DRAWINGS. ROUND CONCRETE PIPE SHALL COMPLY WITH ASTM C76. ELLIPTICAL CONCRETE PIPE SHALL COMPLY WITH ASTM C507. PIPE JOINTS AND 0-RING GASKETS SHALL COMPLY ASTM C443. MINIMUM COVER OVER THE PIPE, INCLUDING COVER OVER THE BELL OF THE PIPE WHERE APPLICABLE, SHALL BE 30 INCHES.

2. RCP PIPE SHALL NOT BE SHIPPED FROM MANUFACTURER UNTIL THE COMPRESSIVE STRENGTH OF THE PIPE HAS REACHED 4000 PSI AND A MINIMUM OF 5 DAYS HAVE PASSED SINCE THE MANUFACTURING OR REPAIR OF THE PIPE HAS BEEN COMPLETED.

3. CORRUGATED POLYETHYLENE (PE) PIPE AND FITTINGS SHALL BE HIGH DENSITY, IN ACCORDANCE WITH ASTM D3350, CELL CLASSIFICATION 324420C (4"-10") OR CELL CLASSIFICATION 335420C (17-36"). PIPE 4"-10" SHALL COMPLY WITH AASHTO M252, TYPE S. PIPE 12"-36" SHALL COMPLY WITH AASHTO M294, TYPE S. BELL JOINTS FOR 4"-10" PIPE SHALL BE PUSH-ON SLEEVE. BELL JOINTS FOR 12"-36" PIPE SHALL BE INTEGRALLY FORMED ON PIPE. GASKETS SHALL BE INSTALLED BY PIPE MANUFACTURER AND SHALL COMPLY WITH ASTM D1056, GRADE 2A2. FITTINGS SHALL COMPLY WITH AASHTO M294.

4. UNDERDRAIN PIPE SHALL BE PERFORATED POLYVINYL CHLORIDE PIPE IN ACCORDANCE WITH ASTM F758. FILTER FABRIC UNDERDRAIN SOCK SHALL BE TYPE D-3 IN ACCORDANCE WITH FDOT INDEX NO. 199.

5. ALL PIPE JOINTS SHALL BE WRAPPED WITH FILTER FABRIC. FILTER FABRIC SHALL BE IN ACCORDANCE WITH FDOT INDEX NO. 199, TYPE D-3, A.O.S. 70-100. INSTALL IN ACCORDANCE WITH FDOT INDEX NO. 280. PROVIDE MINIMUM 12" OVERLAP.

6. INSTALL POLYETHYLENE PIPE IN ACCORDANCE WITH ASTM D2321. BACKFILL AND COMPACT EVENLY ON EACH SIDE TO PREVENT DISPLACEMENT. MINIMUM COVER OVER POLYETHYLENE PIPE SHALL BE AS FOLLOWS: A) PIPE UNDER FLEXIBLE PAVEMENT, RIGID PAVEMENT, OR UNPAVED AREAS WHERE BEDDING IS SUITABLE SOILS AS DEFINED IN THE GENERAL NOTES: MINIMUM COVER SHALL BE 36 INCHES OR ONE PIPE DIAMETER, WHICHEVER IS GREATER; B) PIPE UNDER FLEXIBLE PAVEMENT, RIGID PAVEMENT, OR UNPAVED AREAS WHERE BEDDING IS MANUFACTURED AGGREGATES CLASS 1A OR 1B AS DEFINED IN ASTM D2321: MINIMUM COVER SHALL BE 30 INCHES OR ONE PIPE DIAMETER, WHICHEVER IS GREATER.

7. INSTALL UNDERDRAINS IN ACCORDANCE WITH FDOT SPECIFICATION SECTION 440. INSTALL CLEANOUTS AS SHOWN ON THE DRAWINGS.

8. PRIOR TO INSPECTIONS AND TESTING, CLEAN ALL INSTALLED LINES AND STRUCTURES.

9. ALL STORM PIPE SHALL BE SUBJECTED TO LEAKAGE TESTING. WHEN THE GROUND WATER LEVEL IS ABOVE THE TOP OF THE PIPE, AN INFILTRATION TEST SHALL BE PERFORMED BY SEALING OFF A LENGTH OF PIPE AND MEASURING THE DEPTH OF FLOW OVER A MEASURING WEIR, OR BY PUMPING THE INFILTRATED WATER INTO CONTAINERS FOR MEASUREMENT. TESTS SHALL BE CONDUCTED FOR A MINIMUM OF FOUR HOURS. INFILTRATION LEAKAGE SHALL NOT EXCEED 150 GALLONS PER 24 HOURS, PER INCH DIAMETER, PER MILE OF PIPE. WHEN THE GROUND WATER LEVEL IS BELOW THE TOP OF THE PIPE, THE PIPE SHALL BE TESTED FOR LEAKAGE BY EXFILTRATION. EXFILTRATION LEAKAGE TEST SHALL CONSIST OF ISOLATING THE PARTICULAR SECTION, FILLING WITH WATER TO A POINT 4 FEET ABOVE THE TOP OF THE PIPE AT THE UPPER MANHOLE OR INLET, AND ALLOWING IT TO STAND NOT LESS THAN FOUR HOURS. THE SECTION SHALL THEN BE REFILLED WITH WATER UP TO THE ORIGINAL LEVEL AND AFTER TWO HOURS THE DROP IN WATER SURFACE SHALL BE MEASURED. THE COMPUTED LEAKAGE SHALL NOT EXCEED 150 GALLONS PER INCH DIAMETER, PER 24 HOURS, PER MILE OF PIPE.

PAVING, SIDEWALKS, AND CURBING

1. MATERIALS AND CONSTRUCTION METHODS FOR THE ROADWAY AND PAVING CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE FLORIDA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, 2013 EDITION.

2. ROADWAY PAVING, BASE, AND SUBGRADE THICKNESSES SHALL BE IN ACCORDANCE WITH DETAILS ON THESE DRAWINGS. MATERIAL STABILITY AND DENSITY REQUIREMENTS ARE AS FOLLOWS:

A. TYPE S ASPHALTIC CONCRETE: MINIMUM STABILITY 1500 LBS, COMPACTED TO A MINIMUM OF 95% OF THE MARSHALL DESIGN DENSITY. FOR OFFSITE PAVEMENT USE TYPE SP PAVEMENT PER THE FDOT STANDARDS AND SPECIFICATIONS.

B. LIMEROCK BASE: MINIMUM LBR OF 100, PLACED IN 6" MAXIMUM LIFTS, COMPACTED TO A MINIMUM DENSITY OF 98% OF THE MODIFIED PROCTOR DRY DENSITY (AASTHO T-180). CONTRACTOR MAY SUBSTITUTE ASPHALT BASE COURSE TYPE 3 (MIN. STABILITY OF 1000 LBS) AT NO ADDITIONAL COST, PROVIDED STRUCTURAL NUMBER EQUALS OR EXCEEDS THAT OF THE SPECIFIED LIMEROCK BASE.

C. SUBGRADE: STABILIZE TO A MIN. LBR OF 40, COMPACT TO A MINIMUM DENSITY OF 98% OF THE MODIFIED PROCTOR DRY DENSITY (AASTHO T-180). CONTRACTOR MAY SUBSTITUTE LIMEROCK SUBGRADE (MIN. LBR OF 100) OR CONTROLLED LOW STRENGTH MATERIAL ("FLOWABLE FILL"), F'c (28 DAY) = 100-125 PSI AT NO ADDITIONAL COST, PROVIDED STRUCTURAL NUMBER EQUALS OR EXCEEDS THAT OF THE SPECIFIED SUBGRADE.

3. SIDEWALKS ARE TO BE CONSTRUCTED IN THE AREAS AS SHOWN ON THE CONSTRUCTION PLANS. THE SIDEWALK SHALL BE CONSTRUCTED OF 4" OF CONCRETE WITH A 28-DAY COMPRESSION STRENGTH OF 2500 PSI. JOINTS SHALL BE EITHER TOOLED OR SAW CUT AT A DISTANCE OF 10'. HANDICAPPED RAMPS SHALL BE PROVIDED AT ALL INTERSECTIONS AND SHALL BE IN ACCORDANCE WITH THE FLORIDA ACCESSIBILITY CODE FOR BUILDING CONSTRUCTION, LATEST EDITION.

4. CURBING SHALL BE CONSTRUCTED WHERE NOTED ON THE CONSTRUCTION PLANS. CONCRETE FOR CURBS SHALL BE FDOT CLASS "1" CONCRETE WITH A 28-DAY COMPRESSION STRENGTH OF 2500 PSI. ALL CURBS SHALL HAVE SAW CUT CONTRACTION JOINTS AND SHALL BE CONSTRUCTED AT INTERVALS NOT TO EXCEED 10'-0" ON CENTER. CONSTRUCTION OF CURBS SHALL BE IN CONFORMANCE WITH FDOT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION (LATEST EDITION) SECTION 520 AND DETAILS PROVIDED ON THE CONSTRUCTION PLANS.

5. FIELD COMPACTION DENSITY, STABILITY, AND THICKNESS TESTING FREQUENCIES OF SUB-BASE, BASE, AND ASPHALT SHALL BE TESTED ONCE EVERY 300 LINEAR FEET OF PAVING PER 24-FT WIDE STRIP, STAGGERED LEFT, CENTER AND RIGHT OF CENTERLINE. WHERE LESS THAN 300 LINEAR FEET OF SUB-BASE, BASE, AND ASPHALT IS PLACED IN ONE DAY, PROVIDE MIN. OF ONE TEST FOR EACH PER DAY'S CONSTRUCTION AT A LOCATION DESIGNATED BY THE ENGINEER. ASPHALT EXTRACTION GRADATION SHALL BE TESTED FROM GRAB SAMPLES COLLECTED ONCE EVERY 1800 SQUARE YARDS OF ASPHALT DELIVERED TO THE SITE (OR A MINIMUM OF ONCE PER DAY).

SIGNS AND PAVEMENT MARKINGS

1. ALL SIGNS AND PAVEMENT MARKINGS SHALL BE IN ACCORDANCE WITH THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" AND THE LATEST IMPLEMENTED EDITION OF FDOT ROADWAY AND TRAFFIC DESIGN STANDARDS. STANDARD INDEX NO. 11200, 11860, 11862, 11863, 11864, 11865, 17302, 17344, 17346, 17349, AND 17355 APPLY. GENERALLY, ALL MARKINGS SHALL CONFORM TO THE FOLLOWING: 6" EDGE LINES, 6" LANE LINES, 6" SINGLE CENTERLINES, AND 6" DOUBLE LINE PATTERNS, UNLESS OTHERWISE NOTED ON THE PLANS.

2. ALL PAVEMENT MARKINGS SHALL BE THERMOPLASTIC WITH RAISED PAVEMENT MARKERS (TYPE 911 - 4" x 4"). RAISED PAVEMENT MARKERS ARE TO BE INSTALLED IN ACCORDANCE WITH THESE PLANS AND FDOT INDEX NO. 17352.

3. PARKING STALL PAVEMENT MARKINGS SHALL BE PAINTED. PAINT SHALL MEET THE REQUIREMENTS OF FDOT SPECIFICATION SECTION 971, NON-REFLECTIVE WHITE TRAFFIC PAINT.

4. ALL ROADWAY TRAFFIC SIGNS SHALL BE MANUFACTURED USING HIGH INTENSITY RETROREFLECTIVE MATERIALS. THE BACK OF ALL FINISHED PANELS SHALL BE STENCILED WITH THE DATE OF FABRICATION, THE FABRICATOR'S INITIALS, AND THE NAME OF THE SHEETING IN THREE-INCH LETTERS.

5. INTERNAL SITE TRAFFIC SIGNS ARE NOT REQUIRED TO BE RETROREFLECTIVE.

6. THE CONTRACTOR SHALL VERIFY THE REQUIRED LENGTH OF THE SIGN COLUMN SUPPORTS IN THE FIELD PRIOR TO FABRICATION.

7. ALL PAVEMENT MARKINGS REQUIRE LAYOUT APPROVAL IN THE FIELD BY THE ENGINEER PRIOR TO INSTALLATION.

8. PRIOR TO FINAL PAVEMENT MARKING INSTALLATION, A TWO WEEK CURE TIME OF THE ASPHALT IS REQUIRED.

PAVING TIMING REQUIREMENTS

1. INSTALL SUBGRADE AND BASE COURSE MATERIALS WITHIN 48 HOURS OF THE REMOVAUOPEN CUTTING OF EXISTING PAVEMENT CONSISTING OF STREETS, DRIVEWAYS, OR SIDEWALK. INSTALL FINAL SURFACE COURSES WITHIN 14 DAYS AFTER REMOVAL OF EXISTING PAVEMENT.

2. AREAS TO RECEIVE ASPHALT SHALL RECEIVE EROSION CONTROL MEASURES NO LATER THAN 48 HOURS AFTER ACCEPTANCE OF BASE COURSE. TEMPORARY EROSION CONTROL CONSISTS OF PLACEMENT OF A BITUMINOUS PRIME COAT AND SANDING THE SURFACE. PERMANENT EROSION CONTROL CONSISTS OF PLACEMENT OF THE STRUCTURAL COURSE.

3. AREAS TO RECEIVE CONCRETE PAVING SHALL BE EITHER PROTECTED WITH A LAYER OF FDOT COARSE AGGREGATE MATERIAL OR SHALL BE PAVED WITHIN 48 HOURS OF ACCEPTANCE OF THE SUBGRADE.

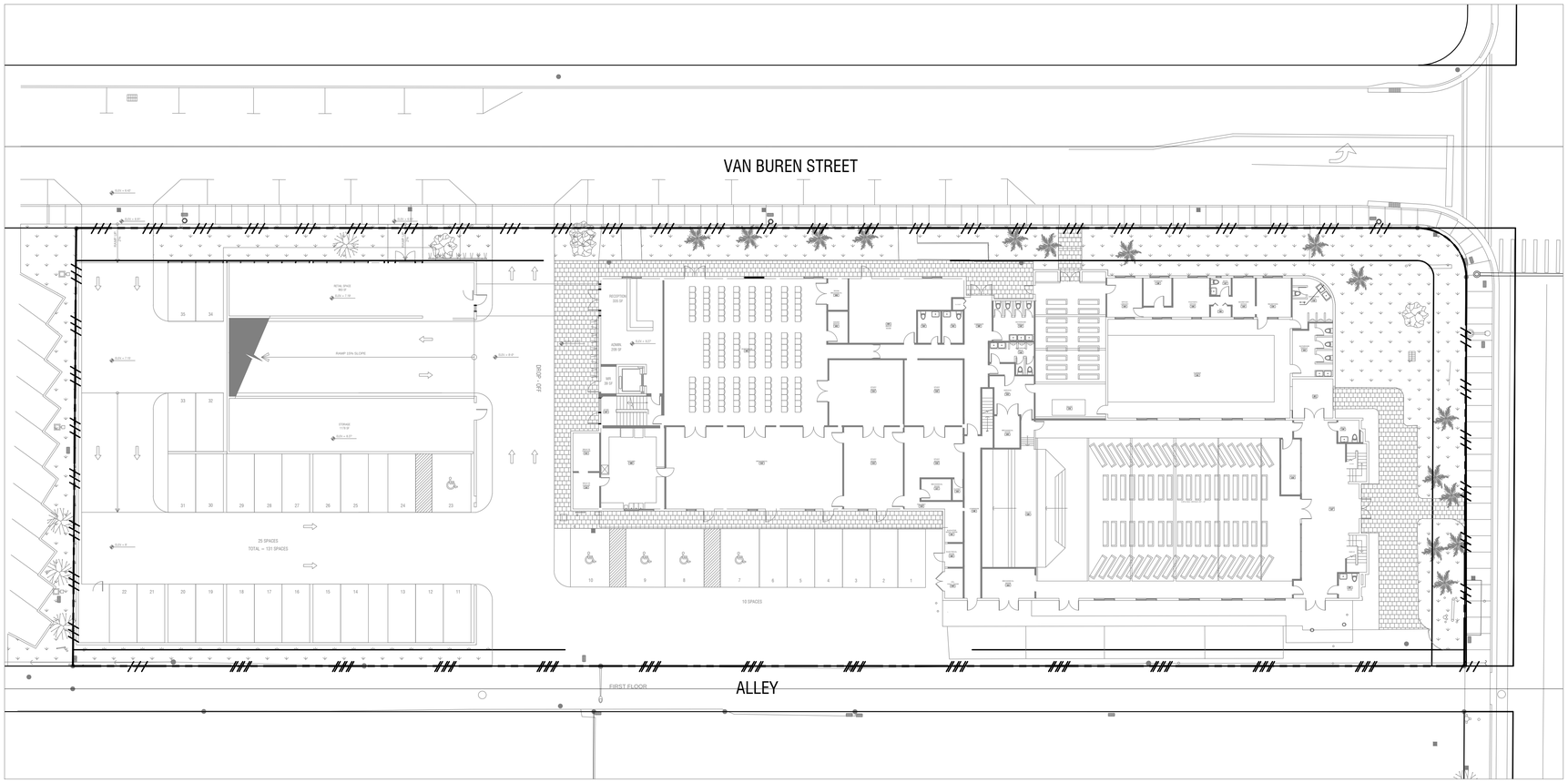
alfonsojurado ARCHITECTURE
1035 N MIAMI AVE, STE. 406
Miami, FL 33136
T 305.206.6214

Szauer Engineering
Civil Engineers
7050 W Palmetto Park Road, No. 15399
Boca Raton, FL 33433
Phone: (561) 716-0159
Certificate of Authorization Number 30129

Broward Academy
A Seventh-Day Adventist 9-12 Educational Program
1808 Van Buren Street, Hollywood, FL
July 15, 2019

GENERAL NOTES
N.T.S.

C-01



GENERAL EROSION & SEDIMENTATION CONTROL NOTES

A. CONTRACTOR SHALL IMPLEMENT BEST MANAGEMENT PRACTICES AS REQUIRED BY THIS STORM WATER POLLUTION PREVENTION PLAN. ADDITIONAL BEST MANAGEMENT PRACTICES SHALL BE IMPLEMENTED AS DICTATED BY CONDITIONS AT NO ADDITIONAL COST OF OWNER THROUGHOUT ALL PHASES OF CONSTRUCTION.

B. BEST MANAGEMENT PRACTICES (BMP'S) AND CONTROLS SHALL CONFORM TO FEDERAL, STATE, OR LOCAL REQUIREMENTS OR MANUAL OF PRACTICE, AS APPLICABLE CONTRACTOR SHALL IMPLEMENT ADDITIONAL CONTROLS AS DIRECTED BY PERMITTING AGENCY OR OWNER.

C. SITE MAP MUST CLEARLY DELINEATE ALL STATE WATERS. PERMITS FOR ANY CONSTRUCTION ACTIVITY IMPACTING STATE WATERS OR REGULATED WETLANDS MUST BE MAINTAINED ON SITE AT ALL TIMES.

D. CONTRACTOR TO LIMIT DISTURBANCE OF SITE IN STRICT ACCORDANCE WITH EROSION CONTROL SEQUENCING SHOWN ON THIS PLAN, OR AS REQUIRED BY THE APPLICABLE GENERAL PERMIT. NO UNNECESSARY OR IMPROPERLY SEQUENCED CLEARING AND / OR GRADING SHALL BE PERMITTED.

E. GENERAL CONTRACTOR SHALL DENOTE ON PLAN THE TEMPORARY PARKING AND STORAGE AREA WHICH SHALL ALSO BE USED AS THE EQUIPMENT MAINTENANCE AND CLEANING AREA, EMPLOYEE PARKING AREA , AND AREA FOR LOCATING PORTABLE FACILITIES, OFFICE TRAILERS, AND TOILET FACILITIES. CONTRACTOR SHALL CONSTRUCT TEMPORARY BERM ON DOWNSTREAM SIDES.

F. ALL WASH WATER (CONCRETE TRUCKS, VEHICLE CLEANING , EQUIPMENT CLEANING , ETC.) SHALL BE DETAINED AND PROPERLY TREATED OR DISPOSED.

G. SUFFICIENT OIL AND GREASE ABSORBING MATERIALS AND FLOTATION BOOMS SHALL BE MAINTAINED ON SITE OR READILY AVAILABLE TO CONTAIN AND CLEAN-UP FUEL OR CHEMICAL SPILLS AND LEAKS.

H. DUST ON THE SITE SHALL BE MINIMIZED. THE USE OF MOTOR OILS AND OTHER PETROLEUM BASED OR TOXIC LIQUIDS FOR DUST SUPPRESSION OPERATIONS IS PROHIBITED.

I. RUBBISH , TRASH , GARBAGE, LITTER, OR OTHER SUCH MATERIALS SHALL BE DEPOSITED INTO SEALED CONTAINERS. MATERIALS SHALL BE PREVENTED FROM LEAVING THE PREMISES THROUGHOUT THE ACTION OF WIND OR STORM WATER DISCHARGE INTO DRAINAGE DITCHES OR WATERS OF THE STATE.

J. ALL DENUDED f BARE AREAS THAT WILL BE INACTIVE FOR 7 DAYS OR MORE , MUST BE STABILIZED IMMEDIATELY UPON COMPLETION OF MOST RECENT GRADING ACTIVITY , WITH THE USE OF FAST-GERMINATING ANNUAL GRASS / GRAIN VARIETIES, STRAW / HAY MULCH WOOD CELLULOSE FIBERS , TACKIFIERS, NETTING OR BLANKETS.

K. DISTURBED PORTIONS OF THE SITE WHERE CONSTRUCTION ACTIVITY HAS PERMANENTLY STOPPED SHALL BE PERMANENTLY STABILIZED AS SHOWN ON THE PLANS. THESE AREAS SHALL BE SEEDED. SODDED , AND / OR VEGETATED IMMEDIATELY, AND NO LATER THAN 7 DAYS AFTER THE LAST CONSTRUCTION ACTIVITY OCCURRING IN THESE AREAS. REFER TO THE GRADING PLAN AND / OR LANDSCAPE PLAN.

L. IF THE ACTION OF VEHICLES TRAVELING OVER THE GRAVEL CONSTRUCTION ENTRANCES IS NOT SUFFICIENT TO PREVENT TRACKING OF DIRT, DUST OR MUD, THEN THE TIRES MUST BE WASHED BEFORE THE VEHICLES ENTER A PUBLIC ROAD. PROVISIONS MUST BE MADE TO INTERCEPT THE WASH WATER AND TRAP THE SEDIMENT BEFORE IT IS CARRIED OFF THE SITE ONLY USE INGRESS / EGRESS LOCATIONS AS PROVIDED

M. ALL MATERIALS SPILLED, DROPPED, WASHED, OR TRACKED FROM VEHICLES ONTO ROADWAYS OR INTO STORM DRAINS MUST BE REMOVED IMMEDIATELY.

N. CONTRACTOR OR SUBCONTRACTORS WILL BE RESPONSIBLE FOR REMOVING SEDIMENT IN THE DETENTION POND AND ANY SEDIMENT THAT MAY HAVE COLLECTED IN THE STORM SEWER DRAINAGE SYSTEMS IN CONJUNCTION WITH THE STABILIZATION OF THE SITE.

0. 0N-SITE AND OFFSITE SOIL STOCKPILE AND BORROW AREAS SHALL BE PROTECTED FROM EROSION AND SEDIMENTATION THROUGH IMPLEMENTATION OF BEST MANAGEMENT PRACTICES. STOCKPILE AND BORROW AREA LOCATIONS SHALL BE NOTED ON THE SITE MAP AND PERMITTED IN ACCORDANCE WITH GENERAL PERMIT REQUIREMENTS.

P. SLOPES SHALL BE LEFT IN A ROUGHENED CONDITION DURING THE GRADING PHASE TO REDUCE RUNOFF VELOCITIES AND EROSION.

Q. DUE TO THE GRADE CHANGES DURING THE DEVELOPMENT OF THE PROJECT , THE CONTRACTOR SHALL BE RESPONSIBLE FOR ADJUSTING THE EROSION AND SEDIMENT CONTROL MEASURES (SILT FENCES, ETC.) TO PREVENT EROSION AND POLLUTANT DISCHARGE.

R. GENERAL CONTRACTOR IS TO DESIGNATE / IDENTIFY AREAS ON THE SITE MAPS, INSIDE OF THE LIMITS OF DISTURBANCE, FOR WASTE DISPOSAL AND DELIVERY AND MATERIAL STORAGE.

S. WHEN INSTALLATION OF SILT FENCE IS PERFORMED, THE CONTRACTOR SHALL STABILIZE THE DISTURBED AREA ALONG THE DOWNWARD SLOPE BY SEEDING OR MULCHING AS CONDITIONS WARRANT.

BMP MAINTENANCE EROSION NOTES

1. INLET PROTECTION DEVICES AND BARRIERS SHALL BE REPAIRED OR REPLACED IF THEY SHOW SIGNS OF UNDERMINING OR DETERIORATION.

2. ALL SEEDED \ SODDED AREAS SHALL BE CHECKED REGULARLY TO SEE THAT A GOOD STAND IS MAINTAINED. AREAS SHOULD BE FERTILIZED, WATERED, AND RESEEDED \ RESODDED AS NEEDED.

3. SILT FENCES SHALL BE REPAIRED TO THEIR ORIGINAL CONDITIONS IF DAMAGED. SEDIMENT SHALL BE REMOVED FROM THE SILT FENCES WHEN IT REACHES ONE-HALF THE HEIGHT OF THE SILT FENCE.

4. THE CONSTRUCTION EXITS SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOW OF MUD ONTO PUBLIC RIGHTS-OF-WAY. THIS MAY REQUIRE PERIODIC TOP DRESSING OF THE CONSTRUCTION EXITS AS CONDITIONS DEMAND.

5. THE TEMPORARY PARKING AND STORAGE AREA SHALL BE KEPT IN GOOD CONDITION (SUITABLE FOR PARKING AND STORAGE). THIS MAY REQUIRE PERIODIC TOP DRESSING OF THE TEMPORARY PARKING AREA AS CONDITIONS DEMAND.

6. OUTLET STRUCTURES SHALL BE MAINTAINED IN OPERATIONAL CONDITIONS AT ALL TIMES. SEDIMENT SHALL BE REMOVED FROM SEDIMENT BASINS OR TRAPS WHEN THE DESIGN CAPACITY HAS BEEN REDUCED BY 50%.

7. PRIOR TO LEAVING THE SITE, ALL VEHICLES SHALL BE CLEANED OF DEBRIS. AND DEBRIS AND I OR SEDIMENT REACHING THE PUBLIC STREET SHALL BE CLEANED IMMEDIATELY BY A METHOD OTHER THAN FLUSHING.

WASHING AREAS

VEHICLES SUCH AS CEMENT OR DUMP TRUCKS AND OTHER CONSTRUCTION EQUIPMENT SHOULD NOT BE WASHED AT LOCATIONS WHERE THE RUNOFF WILL FLOW DIRECTLY INTO A WATERCOURSE OR STORM WATER CONVEYANCE SYSTEM. SPECIAL AREAS SHOULD BE DESIGNATED FOR WASHING VEHICLES. THESE AREAS SHOULD BE LOCATED WHERE THE WASH WATER WILL SPREAD OUT AND EVAPORATE OR INFILTRATE DIRECTLY INTO THE GROUND, OR WHERE RUNOFF CAN BE COLLECTED IN A TEMPORARY HOLDING OR SEEPAGE BASIN. WASH AREAS SHOULD HAVE GRAVEL BASES TO MINIMIZE MUD GENERATION.

SYMBOLS LEGEND

PROPERTY LINE/LIMITS OF DISTURBANCE

PROPOSED SILT FENCE

alfonsojurado ARCHITECTURE
1035 N MIAMI AVE. STE. 406
Miami, FL 33136
T305.206.6214

Szauer Engineering
Civil Engineers
7050 W Palmetto Park Road, No. 15399
Boca Raton, FL 33433
Phone: (561) 716-0159
Certificate of Authorization Number 30129

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1808 Van Buren Street, Hollywood, FL

July 15, 2019

EROSION CONTROL PLAN
1"=20'

C-02

GENERAL EROSION & SEDIMENTATION CONTROL NOTES

A. CONTRACTOR SHALL IMPLEMENT BEST MANAGEMENT PRACTICES AS REQUIRED BY THIS STORM WATER POLLUTION PREVENTION PLAN. ADDITIONAL BEST MANAGEMENT PRACTICES SHALL BE IMPLEMENTED AS DICTATED BY CONDITIONS AT NO ADDITIONAL COST OF OWNER THROUGHOUT ALL PHASES OF CONSTRUCTION.

B. BEST MANAGEMENT PRACTICES (BMPS) AND CONTROLS SHALL CONFORM TO FEDERAL, STATE, OR LOCAL REQUIREMENTS OR MANUAL OF PRACTICE, AS APPLICABLE CONTRACTOR SHALL IMPLEMENT ADDITIONAL CONTROLS AS DIRECTED BY PERMITTING AGENCY OR OWNER.

C. SITE MAP MUST CLEARLY DELINEATE ALL STATE WATERS. PERMITS FOR ANY CONSTRUCTION ACTIVITY IMPACTING STATE WATERS OR REGULATED WETLANDS MUST BE MAINTAINED ON SITE AT ALL TIMES.

D. CONTRACTOR TO LIMIT DISTURBANCE OF SITE IN STRICT ACCORDANCE WITH EROSION CONTROL SEQUENCING SHOWN ON THIS PLAN, OR AS REQUIRED BY THE APPLICABLE GENERAL PERMIT. NO UNNECESSARY OR IMPROPERLY SEQUENCED CLEARING AND / OR GRADING SHALL BE PERMITTED.

E. GENERAL CONTRACTOR SHALL DENOTE ON PLAN THE TEMPORARY PARKING AND STORAGE AREA WHICH SHALL ALSO BE USED AS THE EQUIPMENT MAINTENANCE AND CLEANING AREA, EMPLOYEE PARKING AREA , AND AREA FOR LOCATING PORTABLE FACILITIES, OFFICE TRAILERS, AND TOILET FACILITIES. CONTRACTOR SHALL CONSTRUCT TEMPORARY BERM ON DOWNSTREAM SIDES.

F. ALL WASH WATER (CONCRETE TRUCKS, VEHICLE CLEANING , EQUIPMENT CLEANING , ETC.) SHALL BE DETAINED AND PROPERLY TREATED OR DISPOSED.

G. SUFFICIENT OIL AND GREASE ABSORBING MATERIALS AND FLOTATION BOOMS SHALL BE MAINTAINED ON SITE OR READILY AVAILABLE TO CONTAIN AND CLEAN-UP FUEL OR CHEMICAL SPILLS AND LEAKS.

H. DUST ON THE SITE SHALL BE MINIMIZED. THE USE OF MOTOR OILS AND OTHER PETROLEUM BASED OR TOXIC LIQUIDS FOR DUST SUPPRESSION OPERATIONS IS PROHIBITED.

I. RUBBISH , TRASH , GARBAGE, LITTER, OR OTHER SUCH MATERIALS SHALL BE DEPOSITED INTO SEALED CONTAINERS. MATERIALS SHALL BE PREVENTED FROM LEAVING THE PREMISES THROUGHOUT THE ACTION OF WIND OR STORM WATER DISCHARGE INTO DRAINAGE DITCHES OR WATERS OF THE STATE.

J. ALL DENUDED / BARE AREAS THAT WILL BE INACTIVE FOR 7 DAYS OR MORE , MUST BE STABILIZED IMMEDIATELY UPON COMPLETION OF MOST RECENT GRADING ACTIVITY , WITH THE USE OF FAST-GERMINATING ANNUAL GRASS / GRAIN VARIETIES, STRAW / HAY MULCH WOOD CELLULOSE FIBERS , TACKIFIERS, NETTING OR BLANKETS.

K. DISTURBED PORTIONS OF THE SITE WHERE CONSTRUCTION ACTIVITY HAS PERMANENTLY STOPPED SHALL BE PERMANENTLY STABILIZED AS SHOWN ON THE PLANS. THESE AREAS SHALL BE SEEDED, SODDED , AND / OR VEGETATED IMMEDIATELY, AND NO LATER THAN 7 DAYS AFTER THE LAST CONSTRUCTION ACTIVITY OCCURRING IN THESE AREAS. REFER TO THE GRADING PLAN AND / OR LANDSCAPE PLAN.

L. IF THE ACTION OF VEHICLES TRAVELING OVER THE GRAVEL CONSTRUCTION ENTRANCES IS NOT SUFFICIENT TO PREVENT TRACKING OF DIRT, DUST OR MUD, THEN THE TIRES MUST BE WASHED BEFORE THE VEHICLES ENTER A PUBLIC ROAD. PROVISIONS MUST BE MADE TO INTERCEPT THE WASH WATER AND TRAP THE SEDIMENT BEFORE IT IS CARRIED OFF THE SITE ONLY USE INGRESS / EGRESS LOCATIONS AS PROVIDED.

M. ALL MATERIALS SPILLED, DROPPED, WASHED, OR TRACKED FROM VEHICLES ONTO ROADWAYS OR INTO STORM DRAINS MUST BE REMOVED IMMEDIATELY.

N. CONTRACTOR OR SUBCONTRACTORS WILL BE RESPONSIBLE FOR REMOVING SEDIMENT IN THE DETENTION POND AND ANY SEDIMENT THAT MAY HAVE COLLECTED IN THE STORM SEWER DRAINAGE SYSTEMS IN CONJUNCTION WITH THE STABILIZATION OF THE SITE.

O. ON-SITE AND OFFSITE SOIL STOCKPILE AND BORROW AREAS SHALL BE PROTECTED FROM EROSION AND SEDIMENTATION THROUGH IMPLEMENTATION OF BEST MANAGEMENT PRACTICES. STOCKPILE AND BORROW AREA LOCATIONS SHALL BE NOTED ON THE SITE MAP AND PERMITTED IN ACCORDANCE WITH GENERAL PERMIT REQUIREMENTS.

P. SLOPES SHALL BE LEFT IN A ROUGHENED CONDITION DURING THE GRADING PHASE TO REDUCE RUNOFF VELOCITIES AND EROSION.

Q. DUE TO THE GRADE CHANGES DURING THE DEVELOPMENT OF THE PROJECT , THE CONTRACTOR SHALL BE RESPONSIBLE FOR ADJUSTING THE EROSION AND SEDIMENT CONTROL MEASURES (SILT FENCES, ETC.) TO PREVENT EROSION AND POLLUTANT DISCHARGE.

R. GENERAL CONTRACTOR IS TO DESIGNATE / IDENTIFY AREAS ON THE SITE MAPS, INSIDE OF THE LIMITS OF DISTURBANCE, FOR WASTE DISPOSAL AND DELIVERY AND MATERIAL STORAGE.

S. WHEN INSTALLATION OF SILT FENCE IS PERFORMED, THE CONTRACTOR SHALL STABILIZE THE DISTURBED AREA ALONG THE DOWNWARD SLOPE BY SEEDING OR MULCHING AS CONDITIONS WARRANT.

BMP MAINTENANCE EROSION NOTES

0. INLET PROTECTION DEVICES AND BARRIERS SHALL BE REPAIRED OR REPLACED IF THEY SHOW SIGNS OF UNDERMINING OR DETERIORATION.

1. ALL SEEDED \ SODDED AREAS SHALL BE CHECKED REGULARLY TO SEE THAT A GOOD STAND IS MAINTAINED. AREAS SHOULD BE FERTILIZED, WATERED, AND RESEEDED \ RESODDED AS NEEDED.

2. SILT FENCES SHALL BE REPAIRED TO THEIR ORIGINAL CONDITIONS IF DAMAGED. SEDIMENT SHALL BE REMOVED FROM THE SILT FENCES WHEN IT REACHES ONE-HALF THE HEIGHT OF THE SILT FENCE.

3. THE CONSTRUCTION EXITS SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOW OF MUD ONTO PUBLIC RIGHTS-OF-WAY. THIS MAY REQUIRE PERIODIC TOP DRESSING OF THE CONSTRUCTION EXITS AS CONDITIONS DEMAND.

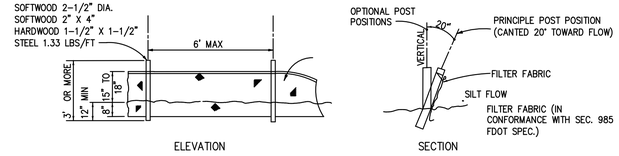
4. THE TEMPORARY PARKING AND STORAGE AREA SHALL BE KEPT IN GOOD CONDITION (SUITABLE FOR PARKING AND STORAGE). THIS MAY REQUIRE PERIODIC TOP DRESSING OF THE TEMPORARY PARKING AREA AS CONDITIONS DEMAND.

5. OUTLET STRUCTURES SHALL BE MAINTAINED IN OPERATIONAL CONDITIONS AT ALL TIMES. SEDIMENT SHALL BE REMOVED FROM SEDIMENT BASINS OR TRAPS WHEN THE DESIGN CAPACITY HAS BEEN REDUCED BY 50%.

6. PRIOR TO LEAVING THE SITE, ALL VEHICLES SHALL BE CLEANED OF DEBRIS. AND DEBRIS AND / OR SEDIMENT REACHING THE PUBLIC STREET SHALL BE CLEANED IMMEDIATELY BY A METHOD OTHER THAN FLUSHING.

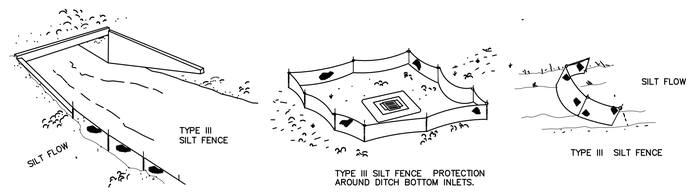
WASHING AREAS

VEHICLES SUCH AS CEMENT OR DUMP TRUCKS AND OTHER CONSTRUCTION EQUIPMENT SHOULD NOT BE WASHED AT LOCATIONS WHERE THE RUNOFF WILL FLOW DIRECTLY INTO A WATERCOURSE OR STORMWATER CONVEYANCE SYSTEM. SPECIAL AREAS SHOULD BE DESIGNATED FOR WASHING VEHICLES. THESE AREAS SHOULD BE LOCATED WHERE THE WASH WATER WILL SPREAD OUT AND EVAPORATE OR INFILTRATE DIRECTLY INTO THE GROUND, OR WHERE RUNOFF CAN BE COLLECTED IN A TEMPORARY HOLDING OR SEEPAGE BASIN. WASH AREAS SHOULD HAVE GRAVEL BASES TO MINIMIZE MUD GENERATION.



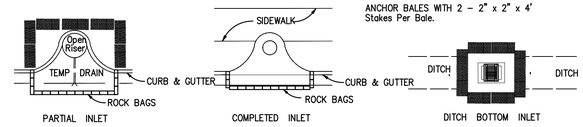
TYPE III SILT FENCE

N.T.S.



SILT FENCE DETAIL

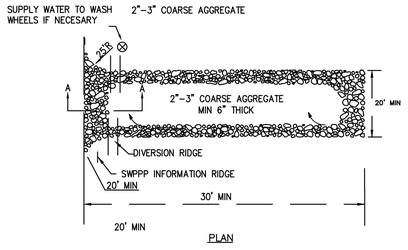
DO NOT DEPLOY IN A MANNER THAT SILT FENCES WILL ACT AS A DAM ACROSS PERMANENT FLOWING WATERCOURSES. SILT FENCES ARE TO BE USED AT UPLAND LOCATIONS AND TURBIDITY BARRIERS USED AT PERMANENT BODIES OF WATER.



GUTTER BUDDY CURB INLET PROTECTION DETAIL

N.T.S.

NOTE:
USE SANDBAGS, SILT FENCE OR OTHER APPROVED METHODS TO CHANNELIZE RUNOFF TO BASIN AS REQUIRED



NOTE:
1. THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION THAT WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHTS-OF-WAY, THIS MAY REQUIRE TOP DRESSING REPAIR AND/OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT.
2. WHEN NECESSARY, WHEELS SHALL CLEANED PRIOR TO ENTRANCE ONTO PUBLICS RIGHTS-OF-WAY.
3. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH CRUSHED STONE THAT DRAINS INTO AN APPROVED SEDIMENT TRAP OR SEDIMENT BASIN

TEMPORARY CONSTRUCTION ENTRANCE DETAIL

N.T.S.

alfonsojurado ARCHITECTURE
1035 N MIAMI AVE, STE. 406
Miami, FL 33136
T 305.206.6214

Szauer Engineering
Civil Engineers
7050 W Palmetto Park Road, No. 15399
Boca Raton, FL 33433
Phone: (561) 716-0159
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Broward Academy

A Seventh-Day Adventist 9-12 Educational Program

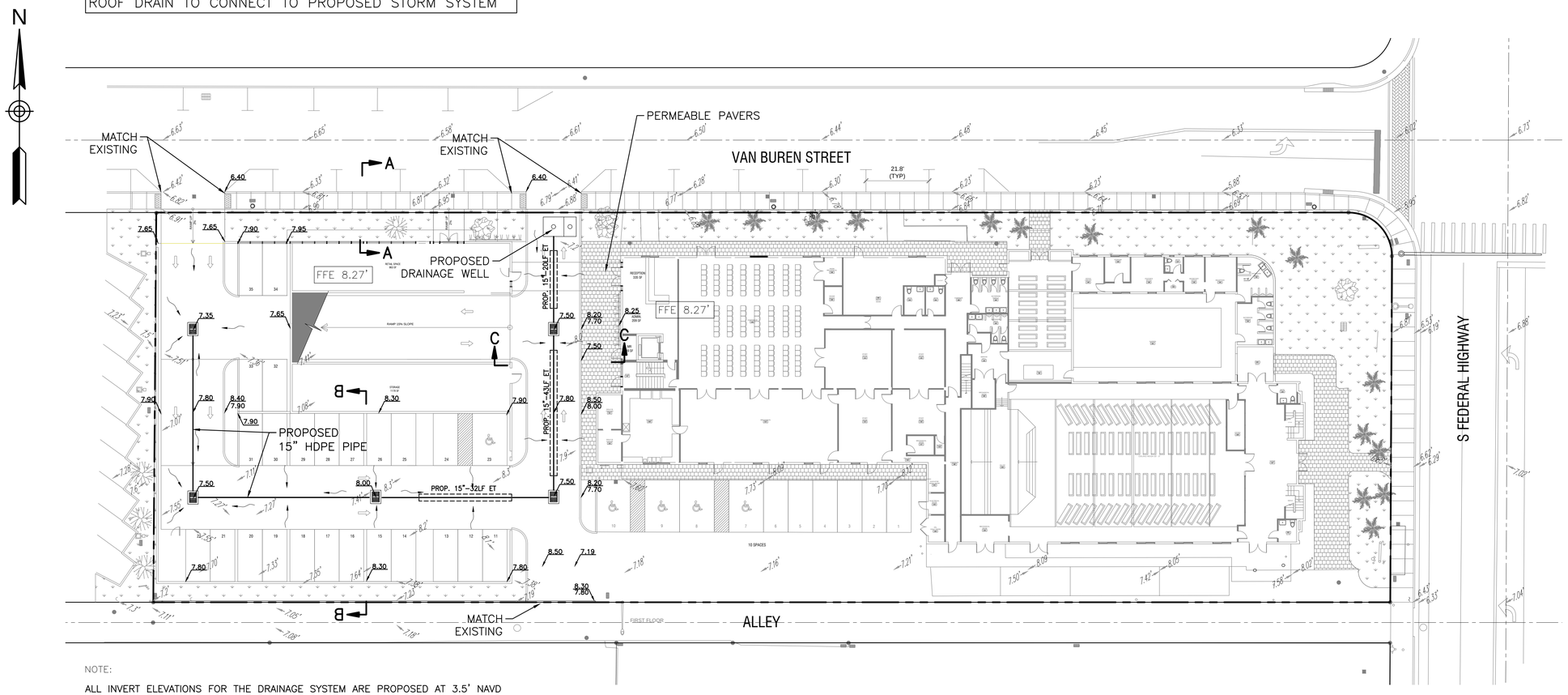
1808 Van Buren Street, Hollywood, FL

July 15, 2019

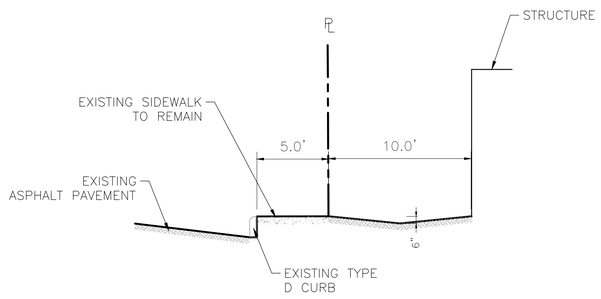
EROSION NOTES & DETAILS
N.T.S.

C-03

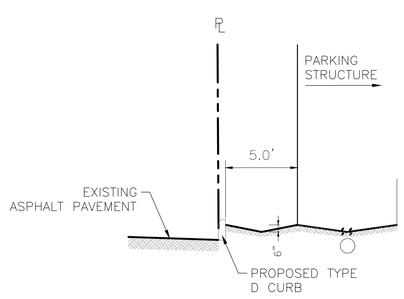
NOTE:
ROOF DRAIN TO CONNECT TO PROPOSED STORM SYSTEM



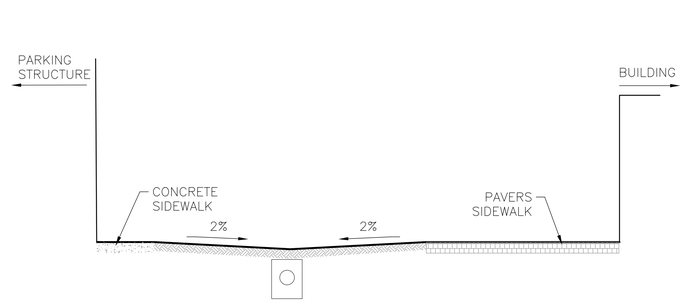
NOTE:
ALL INVERT ELEVATIONS FOR THE DRAINAGE SYSTEM ARE PROPOSED AT 3.5' NAVD



SECTION A–A
SCALE. 1"=5'



SECTION B–B
SCALE. 1"=5'



SECTION C–C
SCALE. 1"=5'

LEGEND

- EXISTING GRADE ELEVATION
- PROPOSED GRADING ELEVATION
- PROP FLOW DIRECTION
- PROP STORM PIPE
- PROP EXFIL. TRENCH
- PROP CATCH BASIN
- PROP MANHOLE
- PROP DRAINAGE WALL
- PERMEABLE PAVERS

NOTE: THE PRESENCE OF GROUNDWATER AND LIMESTONE MAY BE ENCOUNTERED ON THIS PROJECT. CONTRACTOR'S BID SHALL INCLUDED CONSIDERATION FOR ADDRESSING THIS ISSUE.

EROSION AND SEDIMENTATION CONTROL NOTES

MAINTENANCE OF EROSION CONTROL MEASURES IS OF PARAMOUNT IMPORTANCE TO MONROE. THE CONTRACTOR IS RESPONSABLE FOR COMPLYING WITH ALL EROSION CONTROL MEASURES SHOWN ON THE DRAWINGS. THE EROSION CONTROL SYSTEM DESCRIBED WITHIN THE CONSTRUCTION DOCUMENTS SHOULD BE CONSIDERED TO REPRESENT THE MINIMUM ACCEPTABLE STANDARDS FOR THIS PROJECT. ADDITIONAL EROSION CONTROL MEASURES MAY BE REQUIRED DEPENDENT UPON THE STAGE OF CONSTRUCTION. THE SEVERITY OF THE RAINFALL EVENTS AND/OR AS DEEMED NECESSARY AS A RESULT OF ON–SITE INSPECTIONS BY THE OWNER, THEIR REPRESENTATIVES OR THE JURISDICTIONAL AUTHORITIES. THESE ADDITIONAL MEASURES SHALL BE INSTALLED AT NO ADDITIONAL COST TO THE OWNER. IT IS THE CONTRACTOR'S ULTIMATE RESPONSIBILITY TO ASSURE THAT THE STORM WATER DISCHARGE FROM THE SITES DOES NOT EXCEED THE TOLERANCES ESTABLISHED BY ANY OF THE JURISDICTIONAL AUTHORITIES. REFERENCE THE EROSION CONTROL PLAN AND DETAILS

NOTE: PARKING STRUCTURE ROOF DRAIN TO CONNECT TO PROPOSED STORM SYSTEM

PROPOSED STORM SYSTEMS NOTES

1. ALL STRUCTURE INVERTS SHALL BE CONSTRUCTED PER F.D.O.T. INDEX 201 UNLESS OTHERWISE NOTED.
2. ALL DRAINAGE STRUCTURES, INCLUDING CLEAN–OUTS, SHALL BE INSTALLED WITH TRAFFIC BEARING GRATES, FRAMES, TOPS, RINGS AND COVERS, ETC, AS APPLICABLE.
3. ALL PROPOSED INLET GRATES SHALL BE RETICULINES STEEL.
4. SEE LANDSCAPE PLAN FOR SOD/SEED & MULCH LIMITS.
5. HDPE PIPE TO BE DOUBLE WALL–SMOOTH INTERIOR.

NOTE:

PROPOSED ELEVATIONS ARE RELATIVE TO NAVD 88.
NAVD = NGVD – 1.6'

alfonsojurado ARCHITECTURE
1035 N MIAMI AVE. STE. 406
Miami, FL 33136
T305.206.6214

Szauer Engineering
Civil Engineers
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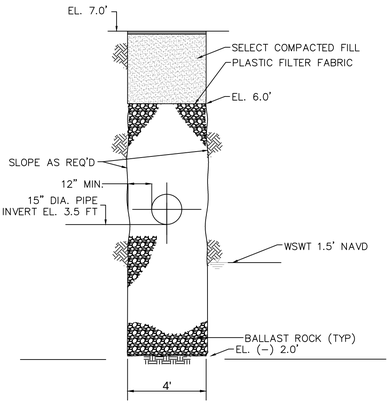
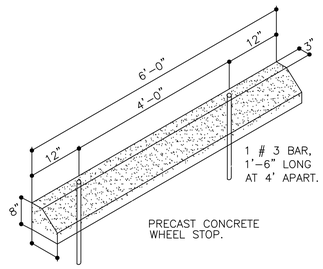
GRADING & DRAINAGE
1"=20'

C-04



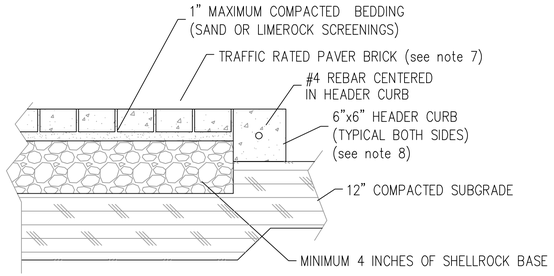
EXFILTRATION TRENCH

DETAIL 1 | NTS | STD

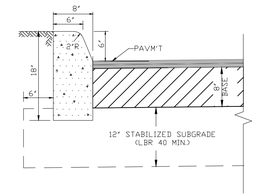


WHEEL STOPS SHALL BE APPROXIMATELY 6" X 8" X 6'-0" LONG, REINFORCED PRECAST CONCRETE, ANCHORED WITH AT LEAST TWO 5/8" DIAMETER REINFORCING BARS DRIVEN 18" INTO THE GROUND AS INDICATED. PROVIDE ONE WHEEL STOP FOR EACH PARKING STALL. UNITS AS MADE BY DENMARK CAST STONE CO., PRECAST CORP., OR ACCEPTED EQUIVALENT.

PRECAST CONC. WHEELSTOP
TYPICAL DETAIL
SCALE: N.T.S.



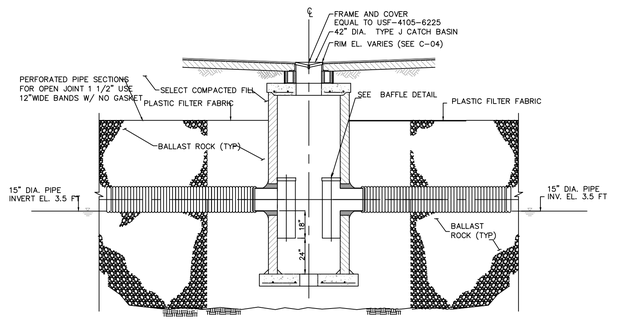
PAVER BRICK DRIVEWAY/SIDEWALK
TYPICAL DETAIL
SCALE: N.T.S.



CURB NOTES:

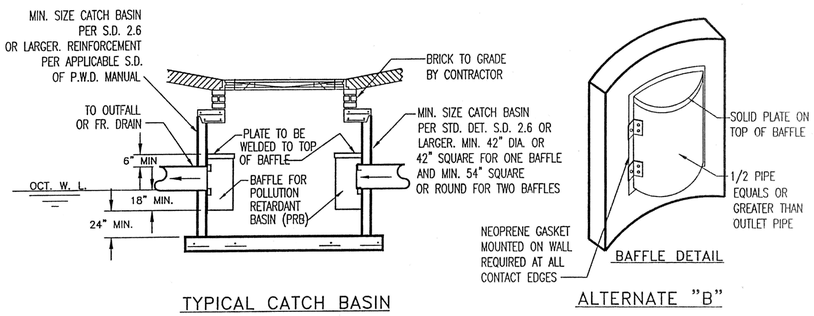
1. PROVIDE 1/4" WIDE CONTRACTION JOINT A MINIMUM OF 1-1/2" DEEP AND AT 10' SPACING MAXIMUM FOR ALL CURBS.
2. CONCRETE SHALL BE 3000 P.S.I. MIN. @ 28 DAYS.
3. TYPE "D" CURB FOR PARKING LOTS MAY BE INSTALLED AS "TRENCHED" D CURB WITH EXTRUDED TOP AT THE CONTRACTOR'S OPTION. TRENCHED CURB REQUIRES CITY TRENCH INSPECTION AND APPROVAL. EXTRUDED CURB MUST BE PLACED WITHIN 15 MINUTES OF PLACEMENT OF TRENCH CONCRETE. EXTRUDED CURB AND TRENCH CONCRETE SHALL BE MONOLITHIC.

TYPICAL CONCRETE TYPE D
CURB DETAIL.
SCALE: N.T.S.



EXFILTRATION TRENCH

DETAIL 2 | NTS | STD

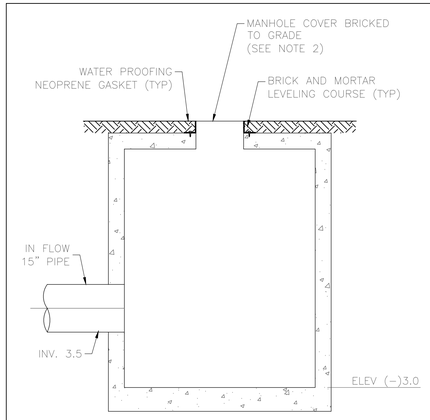


TYPICAL CATCH BASIN

ALTERNATE "B"

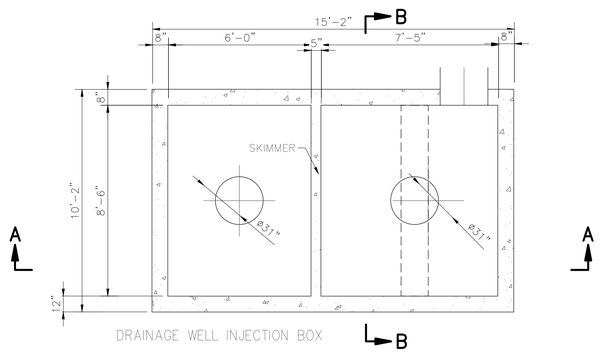
BAFFLE DETAIL

DETAIL 3 | NTS | STD



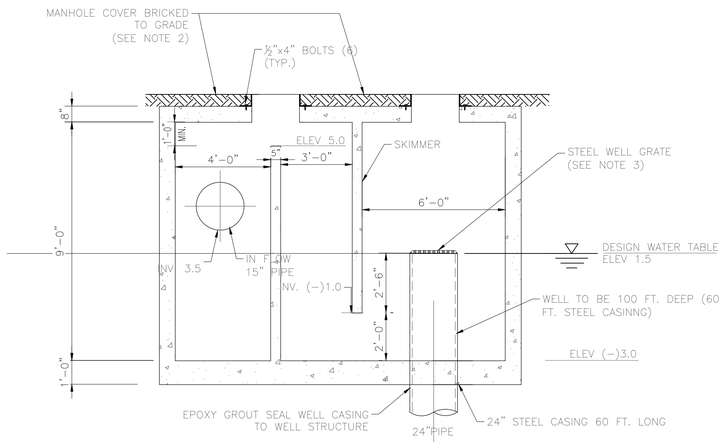
SECTION B–B
N.T.S.

FRAME AND COVER TO BE US. FOUNDRY MODEL N° 195–EBWTL BOLTED WATER TIGHT MANHOLE RING AND COVERS OR EQUAL W THE WORDS "STROM SEWER" CAST ON COVER



DRAINAGE WELL INJECTION BOX

DETAIL 4 | NTS | STD



SECTION A–A
N.T.S.

NOTES:

1. CONTRACTOR MAY REFER TO FDOT DESIGN STANDARDS 2013 FOR MATERIALS, DIMENSIONS, AND CONSTRUCTION PROCEDURES THAT ARE NOT SHOWN HERE. WHERE THERE IS A CONFLICT BETWEEN THE FDOT DESIGN STANDARDS AND THIS DRAWING, THIS DRAWING SHALL SUPERCEDE.
2. 31" DIA. MANHOLE COVERS SHALL BE U.S. FOUNDRY MODEL 119-BM-BWT BOLTED WATERTIGHT OR EQUAL WITH LETTERING "STORM SEWER" CAST ON COVER.
3. WELL GRATE SHALL BE USF GRATE No. 5698 OR APPROVED EQUAL. WELL COVER SHALL HAVE OPENINGS OF MAXIMUM 1.5-IN O.C., AND BE SECURED AND TAMPERPROOF, BUT REMOVABLE IN THE EVENT OF WELL MAINTENANCE
4. WELL CASING SHALL BE 24" DIA. STEEL PIPE WITH A MIN. WALL THICKNESS OF ⅜" CONFORMING TO ASTM A53, A120.
5. WELL CASING SHALL EXTEND TO DEPTH OF 110' BELOW GROUND SURFACE OR TO A DEPTH WHERE THE GROUNDWATER T.D.S. IS GREATER THAN 10,000 P.P.M., WHICHEVER IS DEEPER.
6. OPEN HOLE SHALL EXTEND TO A DEPTH SUCH THAT THE DESIGN DISCHARGE RATE OF 250 G.P.M./FT HEAD IS ACHIEVED. CONTRACTOR SHALL PERFORM A STEP DRAW DOWN TEST OR INJECTION TEST TO DEMONSTRATE CAPACITY.
7. COMPLETED WELL SHALL BE THOROUGHLY AGITATED AND DEVELOPED. IF USED FOR DEWATERING DURING CONSTRUCTION, WELL SHALL BE REDEVELOPED PRIOR TO BEING PLACED INTO SERVICE.
8. ALL NECESSARY PERMITS FROM F.D.E.P. SHALL BE OBTAINED PRIOR TO CONSTRUCTION.

alfonsojurado ARCHITECTURE
1035 N MIAMI AVE, STE. 406
Miami, FL 33136
T 305.206.6214

Szauer Engineering
Civil Engineers
5070 W Palmetto Park Road, No. 15399
Boca Raton, FL 33433
Phone: (561) 716-0159
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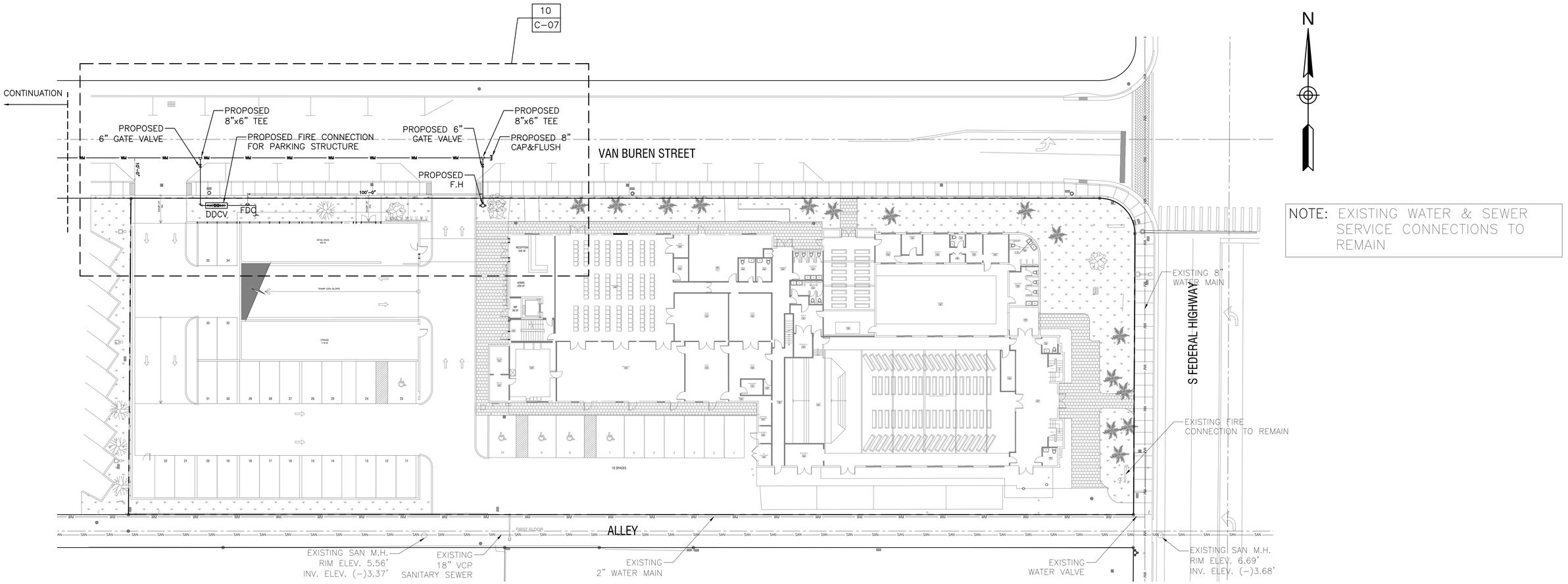
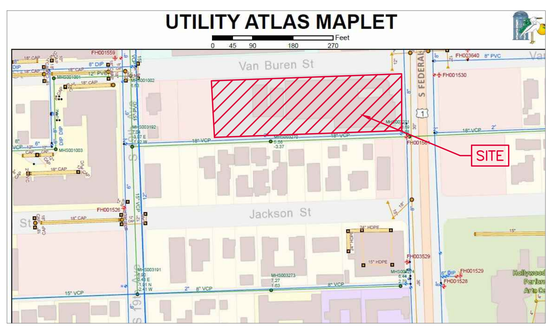
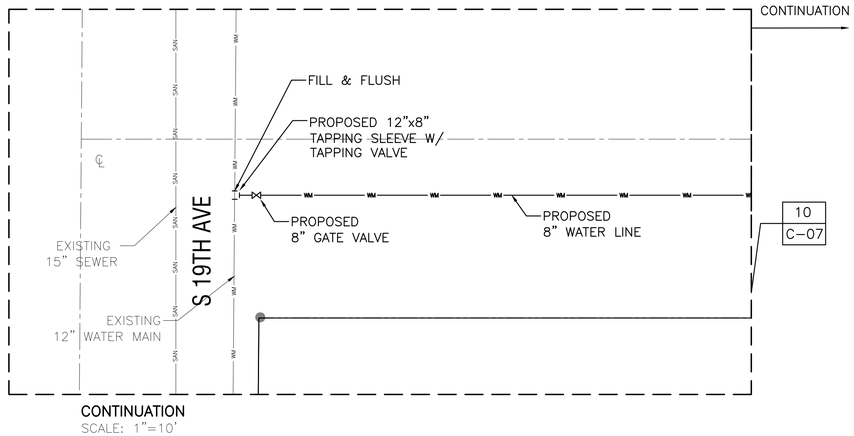
DRAINAGE DETAILS
N.T.S.

C-05



NOTE: EXISTING WATER & SEWER SERVICE CONNECTIONS TO REMAIN





alfonsojurado ARCHITECTURE
1035 N MIAMI AVE. STE. 406
Miami, FL 33136
T 305.206.6214

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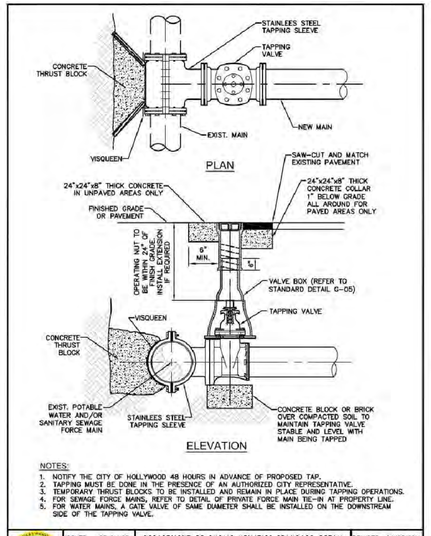
UTILITIES 1"=20'

C-06



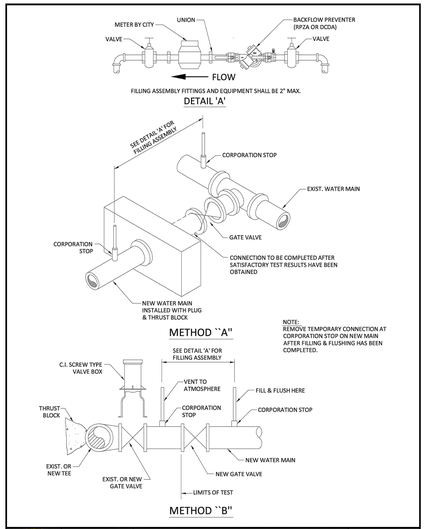
NOTES:

1. NOTIFY THE CITY OF HOLLYWOOD 48 HOURS IN ADVANCE OF PROPOSED TAP.
2. TAPPING MUST BE DONE IN THE PRESENCE OF AN AUTHORIZED CITY REPRESENTATIVE.
3. TEMPORARY THRUST BLOCKS TO BE INSTALLED AND REMAIN IN PLACE DURING TAPPING OPERATIONS.
4. FOR SEWAGE FORCE MAINS, REFER TO DETAIL OF PRIVATE FORCE MAIN TIE-IN AT PROPERTY LINE.
5. FOR WATER MAINS, A GATE VALVE OF SAME DIAMETER SHALL BE INSTALLED ON THE DOWNSTREAM SIDE OF THE TAPPING VALVE.

ISSUED: 03/01/1994	DEPARTMENT OF PUBLIC UTILITIES STANDARD DETAIL		REVISED: 06/08/2014
DRAWN: EAM	TYPICAL TAPPING SLEEVE AND VALVE SETTING		DRAWING NO. G-06
APPROVED: XXX			

TAP SLEEVE AND VALVE

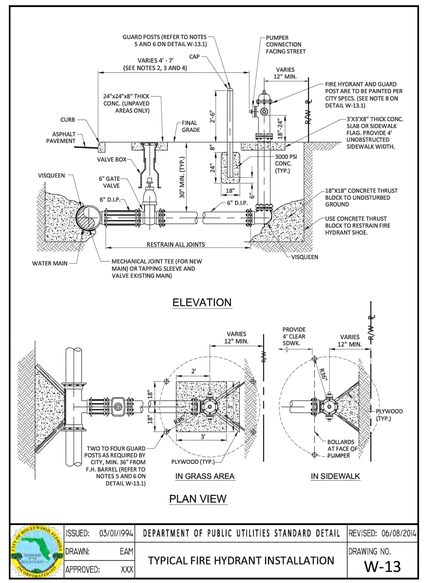
	2
NTS	STD



ISSUED: 03/01/1994	DEPARTMENT OF PUBLIC UTILITIES STANDARD DETAIL		REVISED: 06/08/2014
DRAWN: EAM	FILLING AND FLUSHING DETAILS		DRAWING NO. W-15
APPROVED: XXX			

FILL & FLUSH

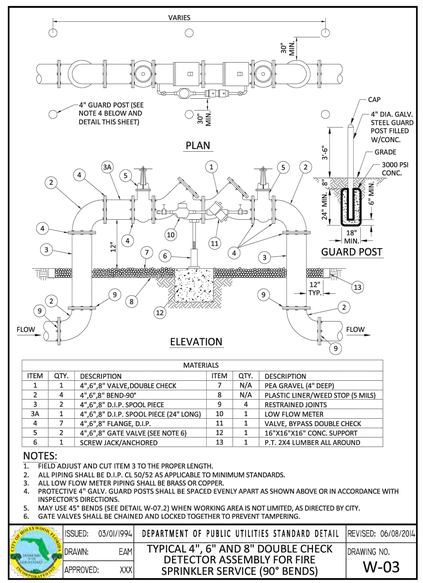
	4
NTS	STD



ISSUED: 03/01/1994	DEPARTMENT OF PUBLIC UTILITIES STANDARD DETAIL		REVISED: 06/08/2014
DRAWN: EAM	TYPICAL FIRE HYDRANT INSTALLATION		DRAWING NO. W-13
APPROVED: XXX			

F.H. INSTALLATION

	5
NTS	STD



MATERIALS					
ITEM	QTY.	DESCRIPTION	ITEM	QTY.	DESCRIPTION
1	1	4",6",8" VALVE,DOUBLE CHECK	7	N/A	PEA GRAVEL (4" DEEP)
2	4	4",6",8" BEND-90°	8	N/A	PLASTIC LINER/WEED STOP (5 MILS)
3	2	4",6",8" D.I.P. SPOOL PIECE	9	4	RESTRAINED JOINTS
3A	1	4",6",8" D.I.P. SPOOL PIECE (24" LONG)	10	1	LOW FLOW METER
4	7	4",6",8" FLANGE, D.I.P.	11	1	VALVE, BYPASS DOUBLE CHECK
5	2	4",6",8" GATE VALVE (SEE NOTE 6)	12	1	16"X16"X16" CONC. SUPPORT
6	1	SCREW JACK/ANCHORED	13	1	P.T. 2X4 LUMBER ALL AROUND

NOTES:

1. FIELD ADJUST AND CUT ITEM 3 TO THE PROPER LENGTH.
2. ALL PIPING SHALL BE D.I.P. CL 50/52 AS APPLICABLE TO MINIMUM STANDARDS.
3. ALL LOW FLOW METER PIPING SHALL BE BRASS OR COPPER.
4. PROTECTIVE 4" GALV. GUARD POSTS SHALL BE SPACED EVENLY APART AS SHOWN ABOVE OR IN ACCORDANCE WITH INSPECTOR'S DIRECTIONS.
5. MAY USE 45° BENDS (SEE DETAIL W-07.2) WHEN WORKING AREA IS NOT LIMITED, AS DIRECTED BY CITY.
6. GATE VALVES SHALL BE CHAINED AND LOCKED TOGETHER TO PREVENT TAMPERING.

ISSUED: 03/01/1994	DEPARTMENT OF PUBLIC UTILITIES STANDARD DETAIL		REVISED: 06/08/2014
DRAWN: EAM	TYPICAL 4", 6" AND 8" DOUBLE CHECK DETECTOR ASSEMBLY FOR FIRE SPRINKLER SERVICE (90° BENDS)		DRAWING NO. W-03
APPROVED: XXX			

DDCV ASSEMBLY

	7
NTS	STD

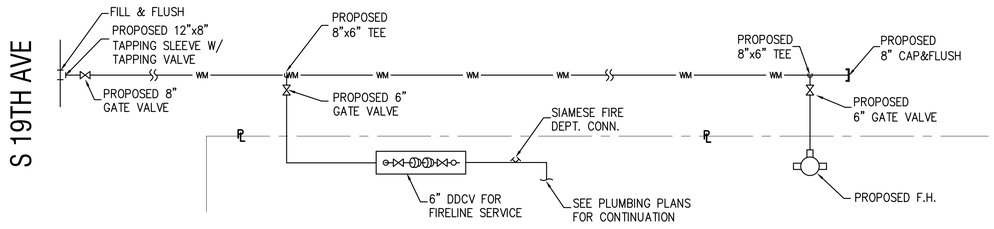
NOTES:

1. IN ALL CASES, PROVIDE 4' UNOBSTRUCTED SIDEWALK CLEAR OF THE FIRE HYDRANT AND BOLLARDS.
2. FIRE HYDRANTS SHALL BE LOCATED BETWEEN 4' AND 7' FROM THE FACE OF CURB.
3. FIRE HYDRANTS SHALL NOT BE LOCATED WITHIN A RADIUS OR WITHIN FDOT CLEAR DRIVING ZONE.
4. WITHIN FDOT R/W, WHERE SPACE IS RESTRICTED THE FIRE HYDRANT MAY BE LOCATED 2' FROM THE FACE OF THE CURB AS LONG AS THERE IS A MINIMUM 4' UNOBSTRUCTED SIDEWALK BEHIND THE HYDRANT, AND THE HYDRANT BASE IS 4" OR LESS FROM GRADE IN ACCORDANCE WITH F.D.O.T. INDEX 700.
5. GUARD POSTS SHALL NOT BE ALLOWED WITHIN FDOT R/W.
6. OTHER THAN FDOT R/W, GUARD POSTS SHALL BE INSTALLED AS REQUIRED FOR SAFETY OR AS APPROVED BY THE DEPT. OF PUBLIC UTILITIES. IN SIDEWALK, LOCATE GUARD POSTS AT THE FACE OF THE PUMPER AND 2'-6' LEFT/RIGHT OF ℄ OF THE FIRE HYDRANT.EXTRA POSTS MAY BE REQUIRED IN INDUSTRIAL AND CONGESTED TRAFFIC AREAS. (4 POSTS MAX.)
7. FIRE HYDRANT CONCRETE SLAB AND CONCRETE GUARD POST FOOTINGS SHALL BE DIFFERENT POURS.
8. THE FIRE HYDRANT BONNET, OPERATING NUT, HOLD-DOWN NUT, PUMPER CAP AND HOSE CAPS SHALL BE PAINTED GREEN, AND THE HYDRANT UPPER BARREL SHALL BE PAINTED SILVER IN ACCORDANCE WITH CITY SPECIFICATIONS.

ISSUED: 03/01/1994	DEPARTMENT OF PUBLIC UTILITIES STANDARD DETAIL		REVISED: 06/08/2014
DRAWN: EAM	TYPICAL FIRE HYDRANT NOTES		DRAWING NO. W-13.1
APPROVED: XXX			

F.H. NOTES

	6
NTS	STD



FIRE CONNECTION SCHEMATIC

	10
NTS	C-06

alfonsojurado ARCHITECTURE
1035 N MIAMI AVE. STE. 406
Miami. FL 33136
T 305.206.6214

Szauer Engineering
Civil Engineers
7050 W Palmetto Park Road, No. 15399
Boca Raton, FL 33433
Phone: (561) 716-0159
Certificate of Authorization Number 30129

Broward Academy

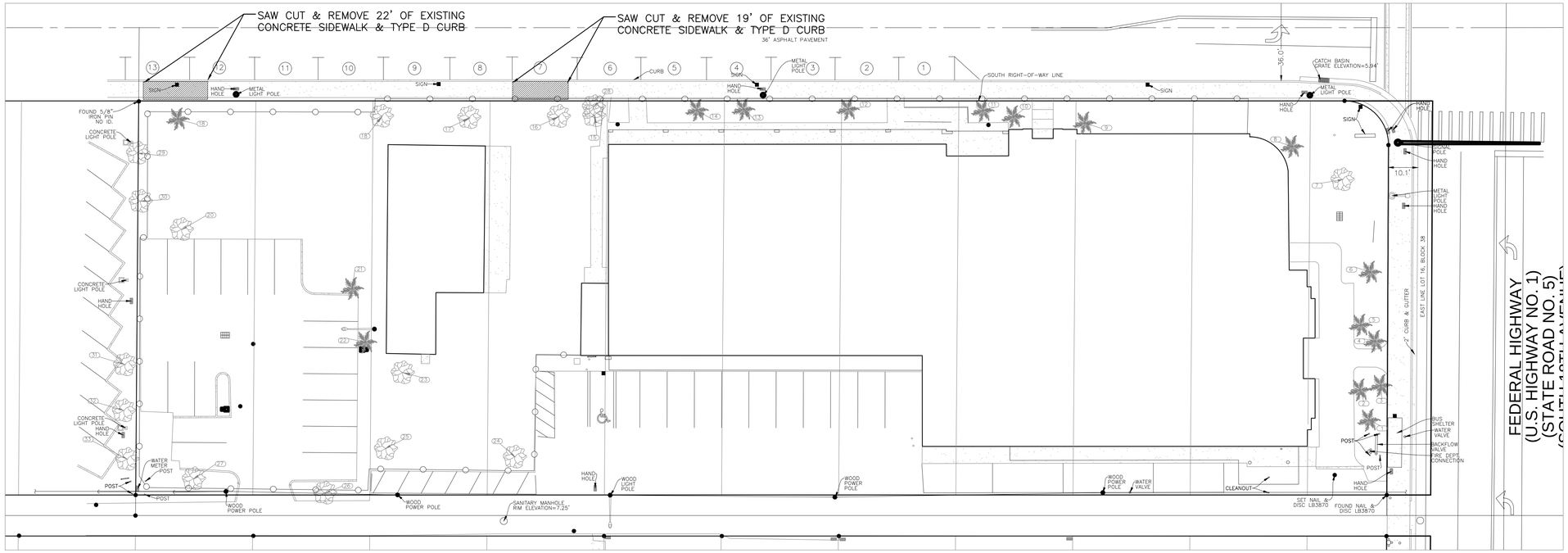
A Seventh-Day Adventist 9-12 Educational Program

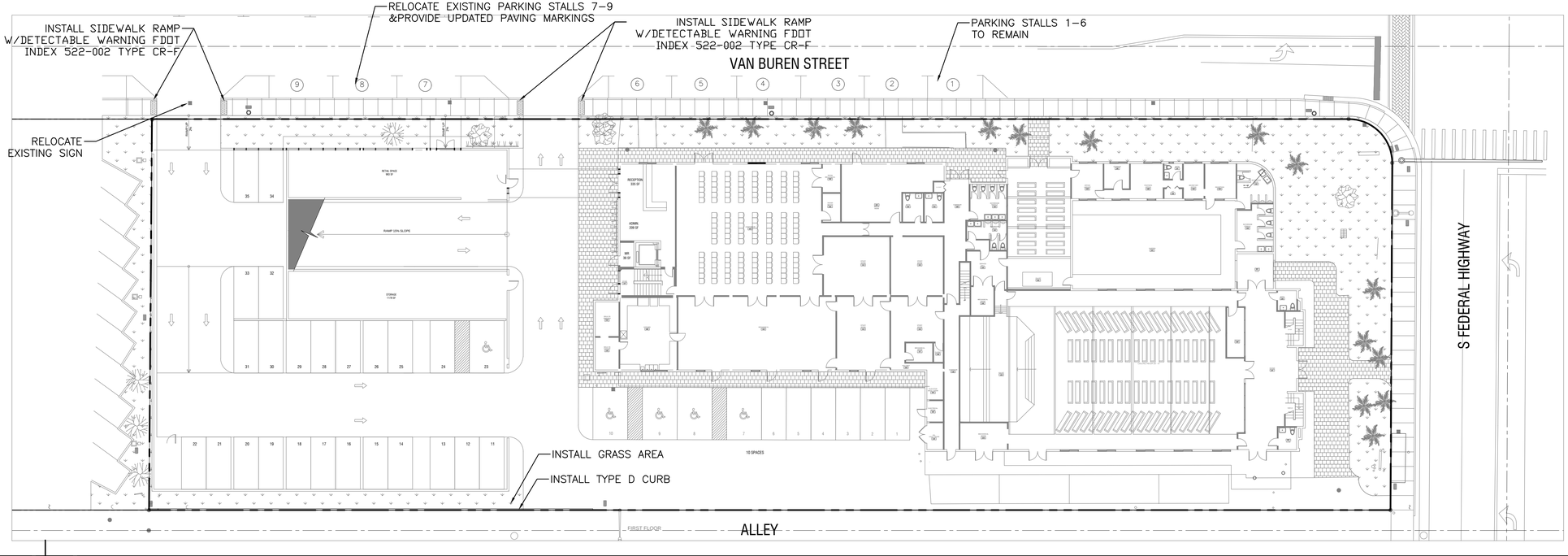
1808 Van Buren Street, Hollywood, FL

July 15, 2019

UTILITIES DETAILS N.T.S.

C-07





LEGEND

- CONCRETE
- GRASS
- BRICK PAVERS
- NEW PAVEMENT
- PAVEMENT RESTORATION
- PROPOSED 24" WHITE STOP BAR (TYP)
- STOP — PROPOSED R1-1: 4' FROM EDGE OF PAVEMENT (TYP)
- ONE WAY / DO NOT ENTER — PROPOSED R6-2a

NOTES:

1. ALL ON-SITE SIGNAGE SHALL BE IN COMPLIANCE WITH THE ZONING LAND DEVELOPMENT REGULATIONS

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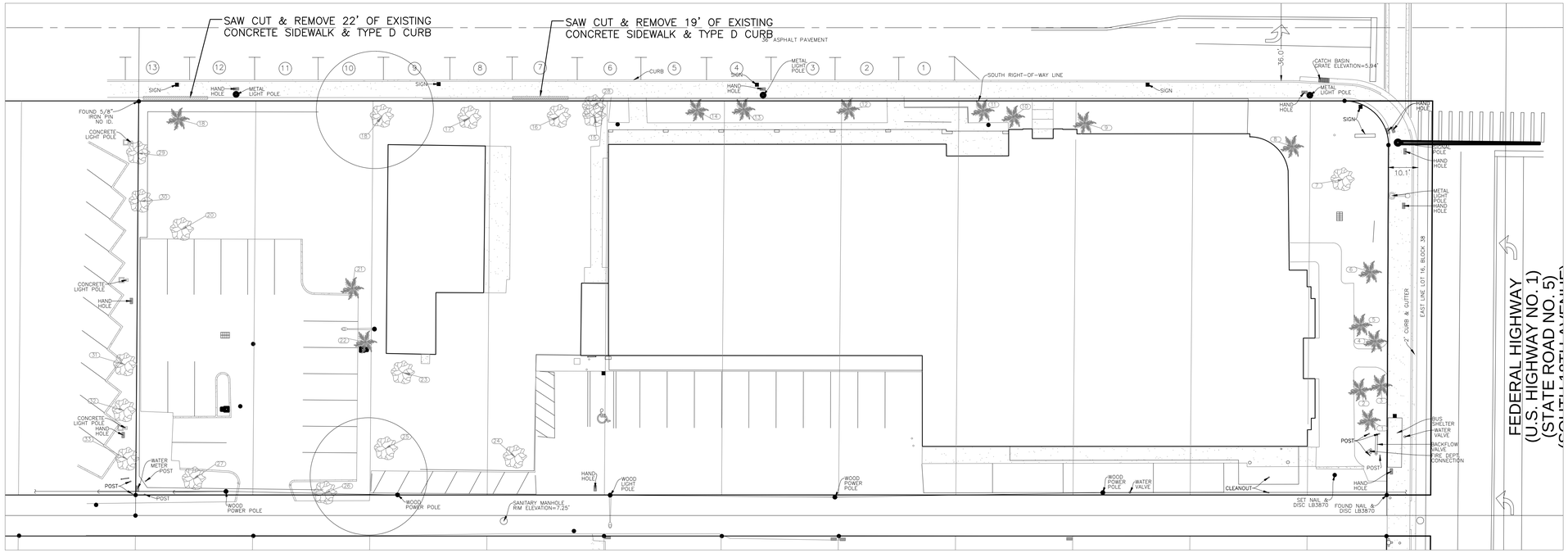
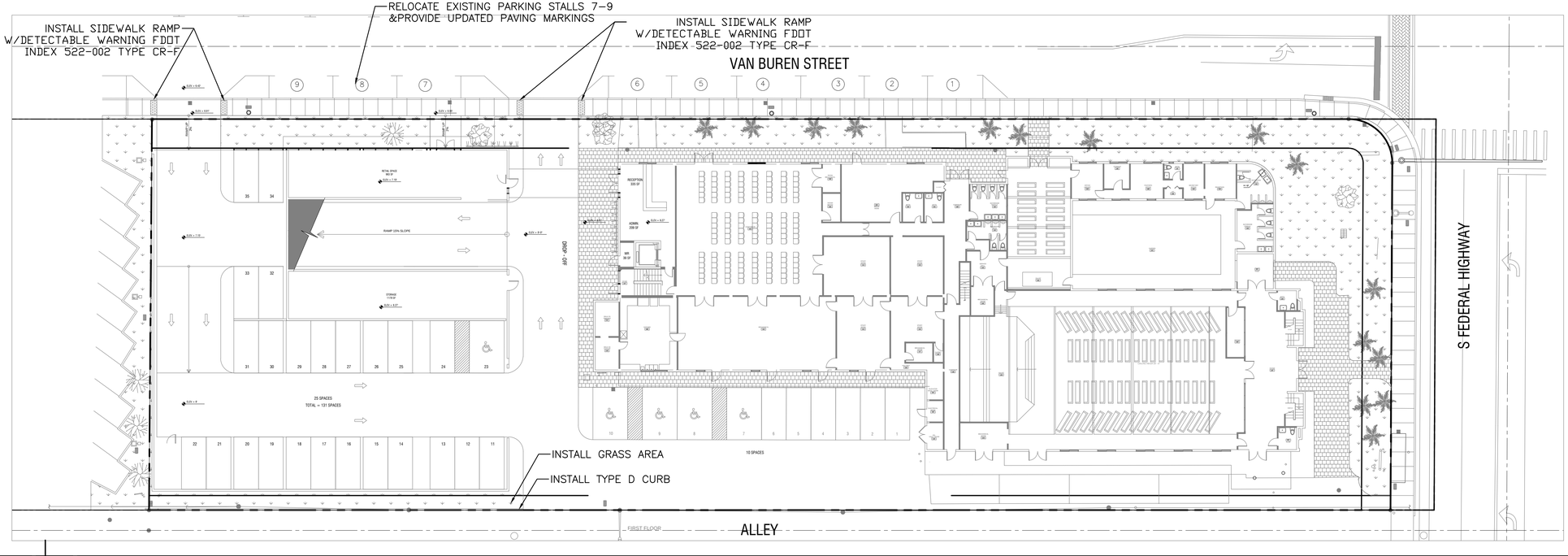
July 15, 2019

ROADWAY PLAN 1"=20'

C-08





LEGEND

- CONCRETE
- GRASS
- BRICK PAVERS
- NEW PAVEMENT
- PAVEMENT RESTORATION
- PROPOSED 24" WHITE STOP BAR (TYP)
- STOP — PROPOSED R1-1: 4' FROM EDGE OF PAVEMENT (TYP)
- ONE WAY / DO NOT ENTER — PROPOSED R6-2a

NOTES:

1. ALL ON-SITE SIGNAGE SHALL BE IN COMPLIANCE WITH THE ZONING LAND DEVELOPMENT REGULATIONS

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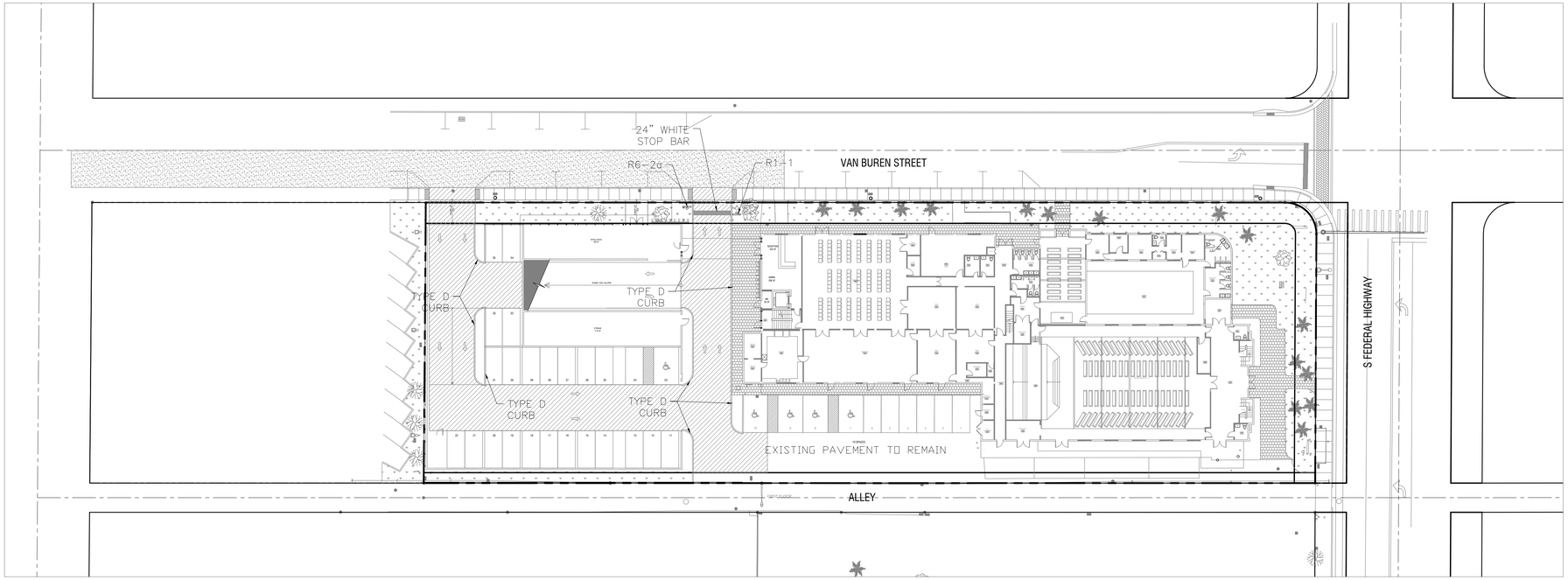
July 15, 2019

ROADWAY PLAN 1"=20'

C-09



N

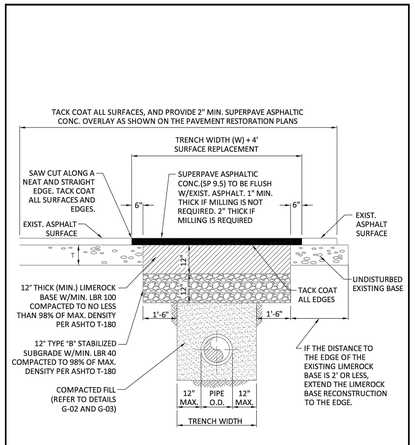
NOTES:

THE FOLLOWING ITEMS ARE NOT REVIEWED OR ACCEPTED BY BROWARD COUNTY:

1. BROWARD COUNTY TRAFFIC ENGINEERING DIVISION'S REVIEW DOES NOT INCLUDE A REVIEW AND ACCEPTANCE OF THE PROJECT'S DESIGN OR OPERATION. THESE ITEMS ARE TO BE REVIEWED AND APPROVED BY THE CITY ENGINEER.

2. BROWARD COUNTY TRAFFIC ENGINEERING DIVISION DOES NOT REVIEW AND APPROVE, OR INSPECT AND ACCEPT THE FOLLOWING ITEMS FOR MAINTENANCE: PAVEMENT MARKINGS ON OR ADJACENT TO PAVER BRICKS, PAINTED ASPHALT, STAMPED ASPHALT OR PAVEMENT MARKINGS MADE OF PAVER BRICKS, RAISED INTERSECTIONS AND RELATED MARKINGS AND SIGNING, UN-WARRANTED MID-BLOCK CROSSWALKS AND RELATED MARKINGS AND SIGNING, UN-WARRANTED CROSSWALKS AND RELATED MARKINGS AND SIGNING, PAINTED/DECORATIVE CROSSWALKS, RAISED CROSSWALKS AND RELATED MARKINGS AND SIGNING, ADVANCED WARNING PAVEMENT MARKINGS FOR SPEED TABLES, BLINKER SIGNS, RECTANGULAR RAPID FLASHER BEACONS AND RELATED MARKINGS AND SIGNING, ON-STREET PARKING AND RELATED MARKINGS AND SIGNING, IN-ROAD LIGHTING AND RELATED MARKINGS AND SIGNING, GREEN BIKE LANES, FLEXIBLE DELINEATORS, DECORATIVE SIGNS AND DECORATIVE SIGN POSTS, PLANTERS, ON-SITE PAVEMENT MARKINGS AND SIGNING, OFF-SITE PAVEMENT MARKINGS AND SIGNING IN RIGHT-OF-WAY THAT IS NOT DEDICATED FOR PUBLIC USE, SIDEWALK WORK OR ASPHALT WORK.

3. THE CITY ENGINEER IS RESPONSIBLE FOR THE REVIEW AND APPROVAL OF THE DESIGN AND OPERATION OF THE PROJECT, AND FOR THE INSPECTION AND ACCEPTANCE OF THE FOLLOWING ITEMS THAT WILL BE MAINTAINED BY THE CITY: PAVEMENT MARKINGS ON OR ADJACENT TO PAVER BRICKS, PAINTED ASPHALT, STAMPED ASPHALT OR PAVEMENT MARKINGS MADE OF PAVER BRICKS, PAVEMENT MARKINGS ON OR ADJACENT TO PAINTED ASPHALT, RAISED INTERSECTIONS AND RELATED MARKINGS AND SIGNING, UN-WARRANTED MID-BLOCK CROSSWALKS AND RELATED MARKINGS AND SIGNING, UN-WARRANTED CROSSWALKS AND RELATED MARKINGS AND SIGNING, PAINTED/DECORATIVE CROSSWALKS, RAISED CROSSWALKS AND RELATED MARKINGS AND SIGNING, ADVANCED WARNING PAVEMENT MARKINGS FOR SPEED TABLES, BLINKER SIGNS, RECTANGULAR RAPID FLASHER BEACONS AND RELATED MARKINGS AND SIGNING, ON-STREET PARKING AND RELATED MARKINGS AND SIGNING, IN-ROAD LIGHTING AND RELATED MARKINGS AND SIGNING, GREEN BIKE LANES, FLEXIBLE DELINEATORS, DECORATIVE SIGNS AND DECORATIVE SIGN POSTS, PLANTERS, ON-SITE PAVEMENT MARKINGS AND SIGNING, OFF-SITE PAVEMENT MARKINGS AND SIGNING IN RIGHT-OF-WAY THAT IS NOT DEDICATED FOR PUBLIC USE, SIDEWALK WORK AND ASPHALT WORK.



ISSUED: 03/01/1994	DEPARTMENT OF PUBLIC UTILITIES STANDARD DETAIL		REVISED: 06/08/2014
DRAWN: EAM	FLEXIBLE PAVEMENT RESTORATION FOR TRENCHES CUT PERPENDICULAR AND PARALLEL TO THE ROADWAY		DRAWING NO. G-12.1
APPROVED: XXX			

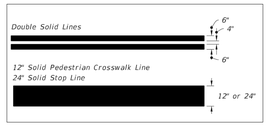
FLEXIBLE PAVEMENT RESTORATION NOTES:

1. THE ABOVE DETAILS APPLY ONLY TO ASPHALT PAVEMENT RESTORATION OVER UTILITY TRENCHES CUT WITHIN CITY OF HOLLYWOOD RIGHTS-OF-WAY. FOR PAVEMENT RESTORATION WITHIN BROWARD COUNTY OR FDOT RIGHTS-OF-WAY REFER TO THE CORRESPONDING DETAILS FOR THOSE AGENCIES.
2. LIMEROCK BASE MATERIAL SHALL HAVE A MINIMUM L.B.R. OF 100 AND A MINIMUM CARBONATE CONTENT OF 70%. REPLACED BASE MATERIAL OVER TRENCH SHALL BE A MINIMUM OF 12" THICK".
3. LIMEROCK BASE MATERIAL SHALL BE PLACED IN 6" MAXIMUM (LOOSE MEASUREMENT) THICKNESS LAYERS WITH EACH LAYER THOROUGHLY ROLLED OR TAMPED AND COMPACTED TO 98% OF MAXIMUM DENSITY, PER AASHTO T-180, PRIOR TO THE PLACEMENT OF THE SUCCEEDING LAYERS.
4. STABILIZED SUBGRADE MATERIAL SHALL BE GRANULAR AND SHALL HAVE A MINIMUM L.B.R. OF 40.
5. BACKFILL SHALL BE PLACED AND COMPACTED IN ACCORDANCE WITH THE PIPE LAYING CONDITION TYPICAL SECTIONS IN DETAILS G-02 AND G-03, AND THE SPECIFICATIONS, BUT TESTING WILL BEGIN 12" ABOVE THE INSTALLED FACILITY.
6. ALL EDGES AND JOINTS OF EXISTING ASPHALT PAVEMENT SHALL BE SAW CUT TO STRAIGHT LINES, PARALLEL TO OR PERPENDICULAR TO THE ROADWAY, PRIOR TO THE RESURFACING.
7. RESURFACING MATERIAL SHALL BE FDOT SUPERPAVE, AND SHALL BE APPLIED A MINIMUM OF TWO INCH IN THICKNESS.
8. SURFACE TREATED PAVEMENT JOINTS SHALL BE LAPPED AND FEATHERED FOR A SMOOTH, FLUSH TRANSITION TO EXISTING PAVEMENT.
9. IF THE TRENCH IS FILLED TEMPORARILY, IT SHALL BE COVERED WITH A 2" ASPHALTIC CONCRETE PATCH TO KEEP THE FILL MATERIAL FROM RAVELING UNTIL REPLACED WITH A PERMANENT PATCH.
10. REFER TO SPECIFICATIONS FOR DETAILED PROCEDURES.
11. WHERE THE UTILITY TRENCH CROSSES EXISTING ASPHALT DRIVEWAYS, THE LIMEROCK BASE THICKNESS MAY BE A MINIMUM OF 6 INCHES THICK. REGARDLESS OF THE EXTENT OF IMPACT, THE ENTIRE DRIVEWAY SURFACE BETWEEN THE EDGE OF THE ROADWAY PAVEMENT AND PROPERTY LINE OR FRONT OF SIDEWALK SHALL BE OVERLAID USING 2-INCH THICK MINIMUM ASPHALTIC CONCRETE SURFACE COURSE WHERE INDICATED ON THE PLANS OR AS DIRECTED BY THE CITY/ENGINEER.

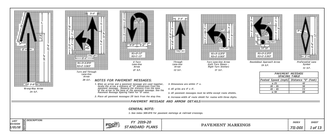
ISSUED: 03/01/1994	DEPARTMENT OF PUBLIC UTILITIES STANDARD DETAIL		REVISED: 06/08/2014
DRAWN: EAM	FLEXIBLE PAVEMENT RESTORATION NOTES		DRAWING NO. G-12
APPROVED: XXX			

NOTES:

1. CONTRACTOR IS RESPONSIBLE FOR REPAIRING ANY DAMAGE TO EXISTING TRAFFIC CONTROL DEVICES.
2. EXISTING MARKINGS SHALL BE REMOVED BY WATER BLASTING OR SAND BLASTING.



DETAIL 1
PAVEMENT MARKING LINES



DETAIL 2
ARROWS

LEGEND

- CONCRETE
- GRASS
- BRICK PAVERS
- NEW PAVEMENT
- PAVEMENT RESTORATION
- PAVEMENT RESTORATION
- PROPOSED 24" WHITE STOP BAR (TYP)
- STOP — PROPOSED R1-1: 4' FROM EDGE OF PAVEMENT (TYP)
- ONE WAY / DO NOT ENTER — PROPOSED R6-2a

NOTES:

1. ALL ON-SITE SIGNAGE SHALL BE IN COMPLIANCE WITH THE ZONING LAND DEVELOPMENT REGULATIONS

alfonsojurado ARCHITECTURE
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Miami, FL 33136
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Broward Academy

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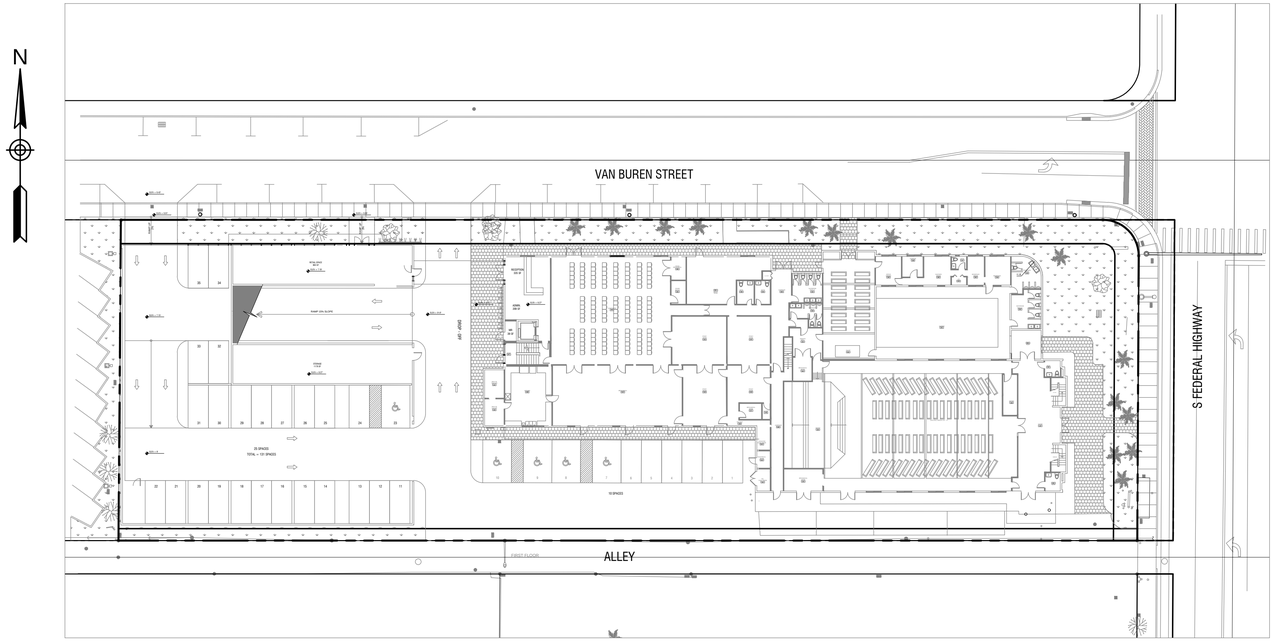
1808 Van Buren Street, Hollywood, FL

July 15, 2019

PAVING PLAN 1"=30'

C-10

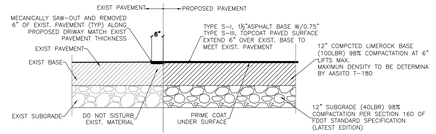


US Customary

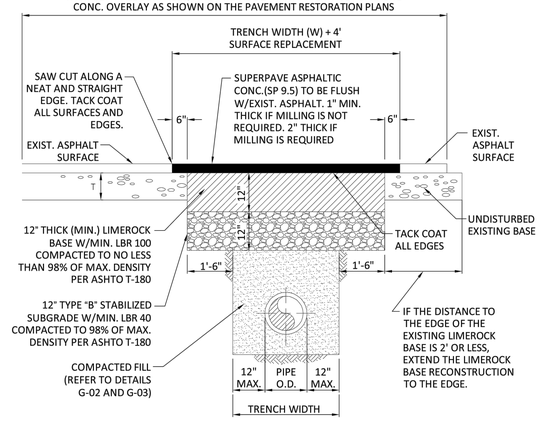
Design Vehicle Type	Pas-senger Car	Single-Unit Truck	Intercity Bus (Motor Coach)		City Transit Bus	Conven-tional School Bus (65 pass.)	Large[2] School Bus (84 pass.)	Articu-lated Bus	Intermed-iate Semi-trailer	Intermed-iate Semi-trailer
Symbol	P	SU	BUS-40	BUS-45	CITY-BUS	S-BUS36	S-BUS40	A-BUS	WB-40	WB-50
Minimum Design Turning Radius (ft)	24	42	45	45	42.0	38.9	39.4	39.8	40	45
Center-line[1] Turning Radius (CTR) (ft)	21	38	40.8	40.8	37.8	34.9	35.4	35.5	36	41
Minimum Inside Radius (ft)	14.4	28.3	27.6	25.5	24.5	23.8	25.4	21.3	19.3	17.0

Design Vehicle Type	Interstate Semitrailer	*Double Bottom** Combina-tion	Triple Semi-trailer/ trailers	Turnpike Double Semi-trailer/ trailer	Motor Home	Car and Camper Trailer	Car and Boat Trailer	Motor Home and Boat Trailer	Farm[3] Tractor w/One Wagon
Symbol	WB-62*	WB-65** or WB-67	WB-67D	WB-100T	WB-109D*	MH	P/T	P/B	MH/B	TR/W
Minimum Design Turning Radius (ft)	45	45	45	45	60	40	33	24	50	18
Center-line[1] Turning Radius (CTR) (ft)	41	41	41	41	56	36	30	21	46	14
Minimum Inside Radius (ft)	7.9	4.4	19.3	9.9	14.9	25.9	17.4	8.0	35.1	10.5

* = Design vehicle with 48-ft trailer as adopted in 1982 Surface Transportation Assistance Act (STAA).
** = Design vehicle with 53-ft trailer as grandfathered in with 1982 Surface Transportation Assistance Act (STAA).
1 = The turning radius assumed by a designer when investigating possible turning paths and is set at the centerline of the front axle of a vehicle. If the minimum turning path is assumed, the CTR approximately equals the minimum design turning radius minus one-half the front width of the vehicle.
2 = School buses are manufactured from 42-passenger to 84-passenger sizes. This corresponds to wheelbase lengths of 11.0 ft to 20.0 ft, respectively. For these different sizes, the minimum design turning radii vary from 28.8 ft to 39.4 ft and the minimum inside radii vary from 14.0 ft to 25.4 ft.
3 = Turning radius is for 150–200 hp tractor with one 18.5 ft long wagon attached to hitch point. Front wheel drive is disengaged and without brakes being applied.

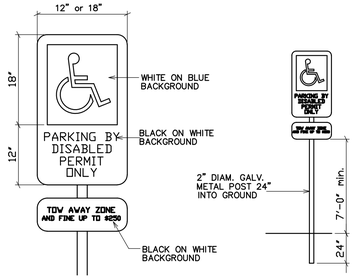


TACK COAT ALL SURFACES, AND PROVIDE 2" MIN. SUPERPAVE ASPHALTIC CONC. OVERLAY AS SHOWN ON THE PAVEMENT RESTORATION PLANS



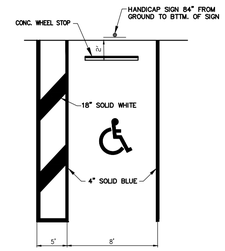
NOTE:

1. ALL PROPOSED SIDEWALKS PER FDOT INDEX 310
2. COORDINATION WITH LANDSCAPING PLANS FOR SIGHT DISTANCE IS REQUIRED



HANDICAP SIGN DETAIL

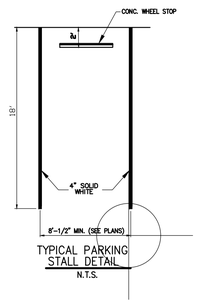
N.T.S.



HANDICAPPED SYMBOL MUST BE BLUE IN COLOR
PAINT: CHLORINATE RUBBER ALKYDE FS- TT-P-115 TYPE III, FACTORY MIXED, QUICK DRYING NON-BLEEDING COLOR PER LOCAL CODE.

TYP. HANDICAP PARKING STALL DETAIL

N.T.S.

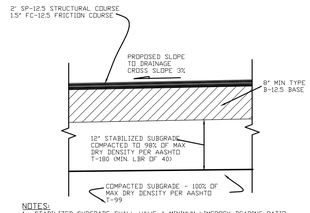


TYPICAL PARKING STALL DETAIL

N.T.S.

PARKING STALLS

NTS	5
	STD



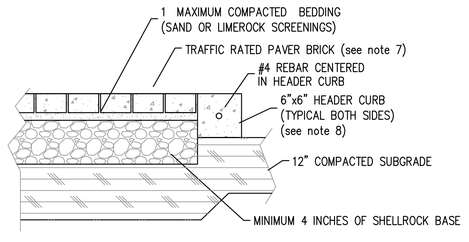
NOTES:
1. STABILIZED SUBGRADE SHALL HAVE A MINIMUM LIMEROCK BEARING RATIO (LBR) OF 40 AND IS REQUIRED FOR ALL NEW PAVEMENT CONSTRUCTION. ALL STABILIZED SUBGRADE SHALL BE STRING LINED FOR GRADE AND PASS ALL REQUIRED DENSITY TESTING PRIOR TO PLACEMENT OF B-12.5 BASE. AREAS BELOW DESIGN GRADE MAY BE CORRECTED BY PLACEMENT OF ADDITIONAL BASE MATERIAL. AREAS ABOVE DESIGN GRADE MUST BE CORRECTED AND REINSPECTED PRIOR TO BASE MATERIAL PLACEMENT.
2. PRIME COAT SHALL BE APPLIED TO ALL FINISHED B-12.5 BASE SURFACES AFTER BOARDING AND DENSITY INSPECTIONS. APPLICATION RATES AND MATERIALS SHALL BE IN ACCORDANCE WITH FDOT SPECIFICATIONS.
3. TACK COAT SHALL BE PLACED AS REQUIRED TO NEW SURFACES BETWEEN LIFTS. APPLICATION RATES AND MATERIALS SHALL BE IN ACCORDANCE WITH FDOT SPECIFICATIONS.
4. FINAL PAVEMENT LIFT CANNOT BE PLACED UNTIL ALL PROJECT LANDSCAPING IS IN PLACE AND THE IRRIGATION SYSTEM IS INSTALLED AND APPROVED.

ASPHALTIC CONCRETE PAVEMENT

NTS	7
	STD

TYPICAL ASPHALT TIE IN

NTS	6
	STD



PAVER BRICK DRIVEWAY/SIDEWALK

NTS	4
	STD

FLEXIBLE PAVEMENT RESTORATION NOTES:

1. THE ABOVE DETAILS APPLY ONLY TO ASPHALT PAVEMENT RESTORATION OVER UTILITY TRENCHES CUT WITHIN CITY OF HOLLYWOOD RIGHTS-OF-WAY. FOR PAVEMENT RESTORATION WITHIN BROWARD COUNTY OR FDOT RIGHTS-OF-WAY REFER TO THE CORRESPONDING DETAILS FOR THOSE AGENCIES.
2. LIMEROCK BASE MATERIAL SHALL HAVE A MINIMUM L.B.R. OF 100 AND A MINIMUM CARBONATE CONTENT OF 70%. REPLACED BASE MATERIAL OVER TRENCH SHALL BE A MINIMUM OF 12" THICK".
3. LIMEROCK BASE MATERIAL SHALL BE PLACED IN 6" MAXIMUM (LOOSE MEASUREMENT) THICKNESS LAYERS WITH EACH LAYER THOROUGHLY ROLLED OR TAMPED AND COMPACTED TO 98% OF MAXIMUM DENSITY, PER AASHTO T-180, PRIOR TO THE PLACEMENT OF THE SUCCEEDING LAYERS.
4. STABILIZED SUBGRADE MATERIAL SHALL BE GRANULAR AND SHALL HAVE A MINIMUM L.B.R. OF 40.
5. BACKFILL SHALL BE PLACED AND COMPACTED IN ACCORDANCE WITH THE PIPE LAYING CONDITION TYPICAL SECTIONS IN DETAILS G-02 AND G-03, AND THE SPECIFICATIONS, BUT TESTING WILL BEGIN 12" ABOVE THE INSTALLED FACILITY.
6. ALL EDGES AND JOINTS OF EXISTING ASPHALT PAVEMENT SHALL BE SAW CUT TO STRAIGHT LINES, PARALLEL TO OR PERPENDICULAR TO THE ROADWAY, PRIOR TO THE RESURFACING.
7. RESURFACING MATERIAL SHALL BE FDOT SUPERPAVE, AND SHALL BE APPLIED A MINIMUM OF TWO INCH IN THICKNESS.
8. SURFACE TREATED PAVEMENT JOINTS SHALL BE LAPPED AND FEATHERED FOR A SMOOTH, FLUSH TRANSITION TO EXISTING PAVEMENT.
9. IF THE TRENCH IS FILLED TEMPORARILY, IT SHALL BE COVERED WITH A 2" ASPHALTIC CONCRETE PATCH TO KEEP THE FILL MATERIAL FROM RAVELING UNTIL REPLACED WITH A PERMANENT PATCH.
10. REFER TO SPECIFICATIONS FOR DETAILED PROCEDURES.
11. WHERE THE UTILITY TRENCH CROSSES EXISTING ASPHALT DRIVEWAYS, THE LIMEROCK BASE THICKNESS MAY BE A MINIMUM OF 6 INCHES THICK. REGARDLESS OF THE EXTENT OF IMPACT, THE ENTIRE DRIVEWAY SURFACE BETWEEN THE EDGE OF THE ROADWAY PAVEMENT AND PROPERTY LINE OR FRONT OF SIDEWALK SHALL BE OVERLAID USING 2-INCH THICK MINIMUM ASPHALTIC CONCRETE SURFACE COURSE WHERE INDICATED ON THE PLANS OR AS DIRECTED BY THE CITY/ENGINEER.

ISSUED: 03/01/1994	DEPARTMENT OF PUBLIC UTILITIES STANDARD DETAIL	REVISED: 06/08/2014
DRAWN: EAM	FLEXIBLE PAVEMENT RESTORATION NOTES	DRAWING NO. G-12
APPROVED: XXX		

alfonsojurado ARCHITECTURE
1035 N MIAMI AVE, STE. 406
Miami, FL 33136
T305.206.6214

Szauer Engineering
Civil Engineers
7050 W Palmetto Park Road, No. 15399
Boca Raton, FL 33433
Phone: (561) 716-0159
Certificate of Authorization Number 30129

Broward Academy

A Seventh-Day Adventist 9-12 Educational Program

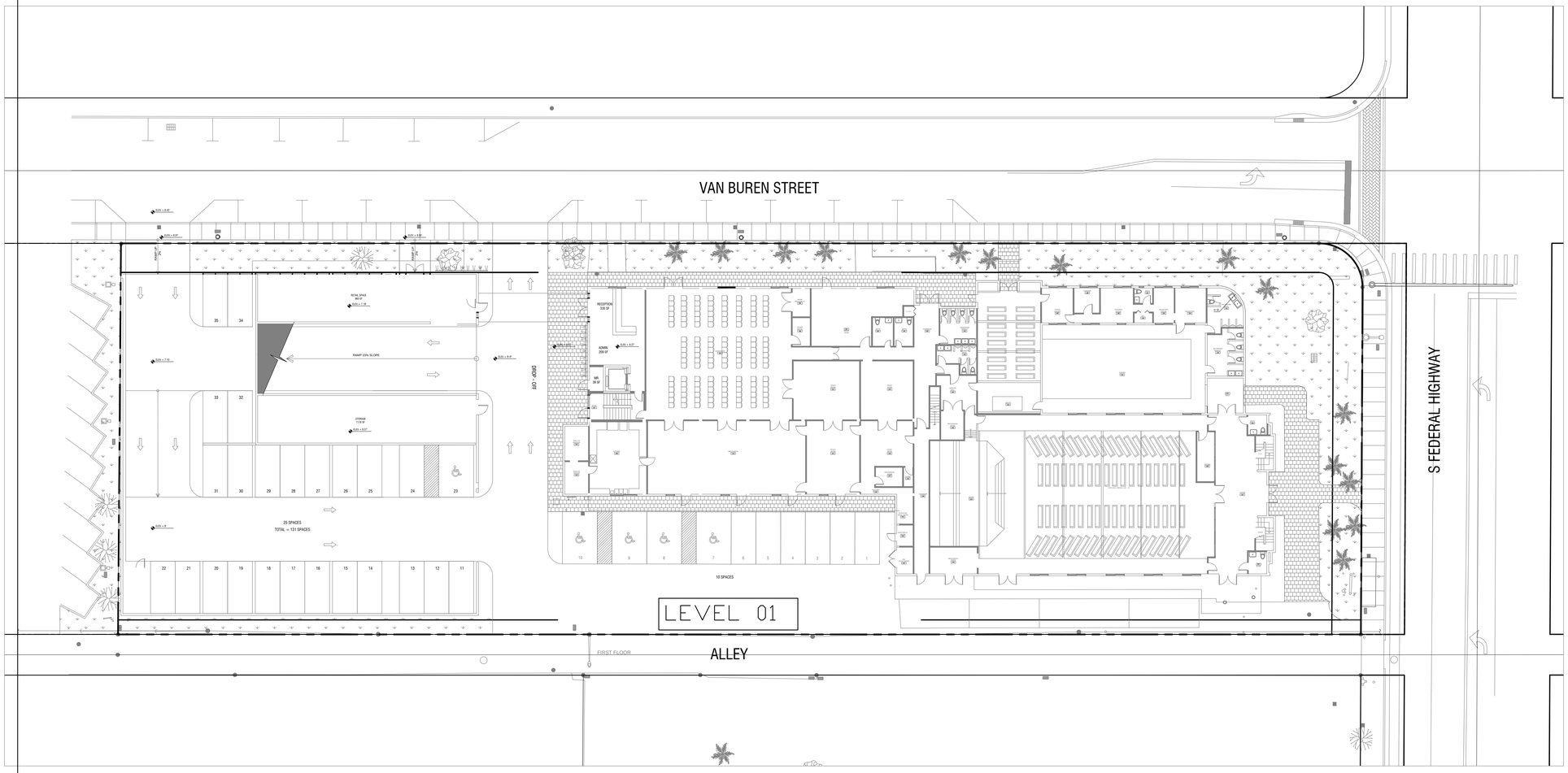
1808 Van Buren Street, Hollywood, FL

July 15, 2019

PAVING DETAILS

1"=30'

C-11



N

LEGEND

- CONCRETE
- GRASS
- BRICK PAVERS
- NEW PAVEMENT
- PAVEMENT RESTORATION
- PROPOSED 24" WHITE STOP BAR (TYP)
- STOP — PROPOSED R1-1; 4" FROM EDGE OF PAVEMENT (TYP)
- ONE WAY / DO NOT ENTER — PROPOSED R6-2a

NOTES:

1. ALL ON-SITE SIGNAGE SHALL BE IN COMPLIANCE WITH THE ZONING LAND DEVELOPMENT REGULATIONS

alfonsojurado ARCHITECTURE
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Broward Academy

A Seventh-Day Adventist 9-12 Educational Program

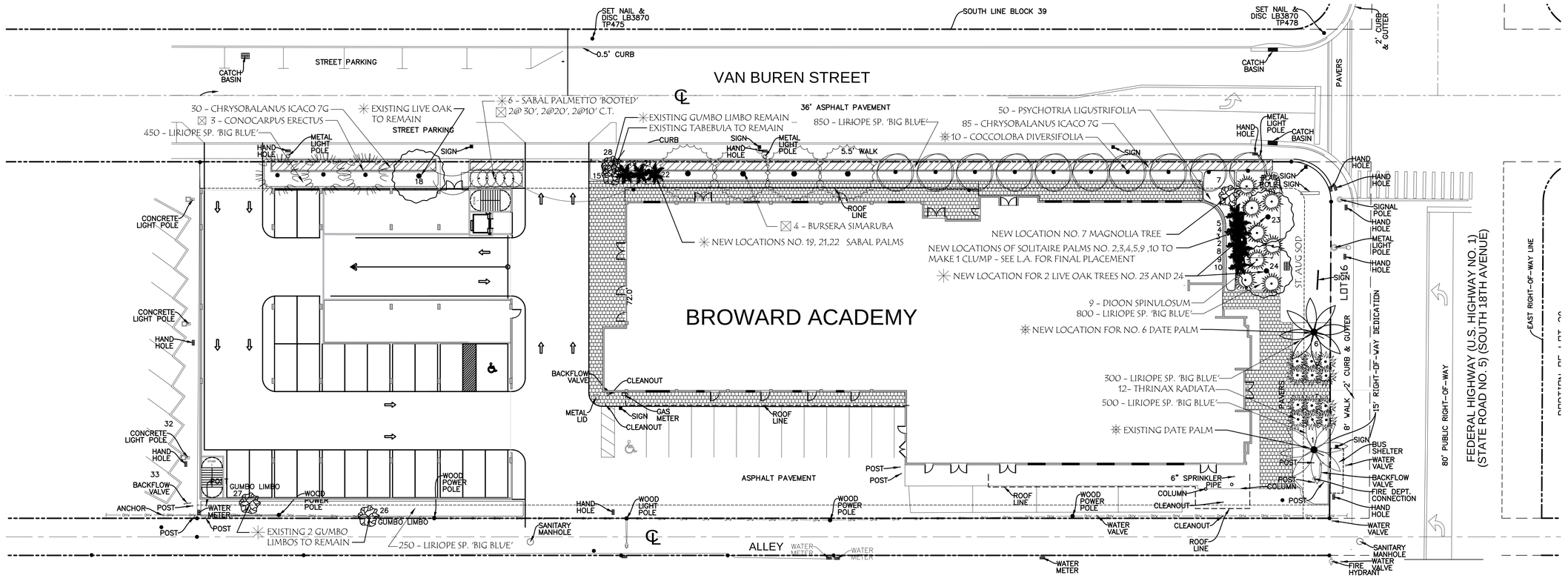
1808 Van Buren Street, Hollywood, FL

July 15, 2019

GARAGE MARKINGS

1"=20'

C-12



NO.	BOTANICAL NAME	COMMON NAME		HEIGHT	SPREAD	CALIPER	NATIVE
	STREET TREES - 12 REQUIRED						
STREET TREES ✲ 1	PHOENIX SYLVESTRIS - EXISTING #1	SILVER DATE PALM	EXTG	30′	20′	18″	
STREET TREES ✲ 1	PHOENIX SYLVESTRIS - EXISTING #6	SILVER DATE PALM	RELO	30′	20′	18″	
STREET TREES ✲ 10	COCCOLOBA DIVERSIFOLIA	PIGEON PLUM	B&B	12′	6′	2″	YES
	OPEN SPACE TREES - 9 REQUIRED						
OPEN SPACE TREES ✳ 1	BURSERA SIMARUBA - EXISTING #26	GUMBO LIMBO	EXTG	20′	25′	12″	YES
OPEN SPACE TREES ✳ 1	BURSERA SIMARUBA - EXISTING #27	GUMBO LIMBO	EXTG	50′	35′	48″	YES
OPEN SPACE TREES ✳ 1	BURSERA SIMARUBA - EXISTING #28	GUMBO LIMBO	EXTG	40′	20′	12″	YES
OPEN SPACE TREES ✳ 1	QUERCUS VIRGINIANA - EXISTING #18	LIVE OAK	EXTG	40′	40′	24″	YES
OPEN SPACE TREES ✳ 1	MAGNOLIA VIRGINIANA - RELOCATE #7	MAGNOLIA	RELO	25′	14′	10″	YES
OPEN SPACE TREES ✳ 1	QUERCUS VIRGINIANA - RELOCATE #23	LIVE OAK	RELO	40′	40′	24″	YES
OPEN SPACE TREES ✳ 1	QUERCUS VIRGINIANA - RELOCATE # 24	LIVE OAK	RELO	30′	30′	18″	YES
OPEN SPACE TREES ✳ 3	SABAL PALMETTOS - RELOCATE 3:1 = 1 TREE	TREES # 19, 20, 22	RELO				YES
OPEN SPACE TREES ✳ 3	SABAL PALMETTOS - NEW 3:1 = 1 TREE	SABAL PALM	B&B	30′, 20′, 10′	10′	18″	YES
	MITIGATION TREES - 135 IN. CAL. REQUIRED						
MITIGATION TREES ☒ 3	SABAL PALMETTOS (PALM MITIGATION)	SABAL PALM	B&B	30′, 20′, 10′	10′	18″	YES
MITIGATION TREES ☒ 4	BURSERA SIMARUBA = 16 IN. TOTAL	GUMBO LIMBO	B&B	18′	8′	4″	YES
MITIGATION TREES ☒ 3	CONOCARPUS ERECTUS = 12 IN. TOTAL	GREEN BUTTONWOOD	B&B	18′	8′	4″	YES
MITIGATION TREES ☒ 12	THRINAX RADIATA = 8 IN. TOTAL	GREEN THATCH PALM	B&B	8′ C.T.			YES
	36 IN. PROVIDED						
	SHRUBS						
105	CHRYSOBALANUS ICACO	HORIZONTAL COCOPLUM	7 GAL	30″	30″		YES
50	PSYCHOTRIA LIGUSTRIFOLIA	BAHAMA WILD COFFEE	7 GAL	30″	30″		YES
	GROUNDCOVER						
3150	LIRIOPE MUSCARI "BIG BLUE'	SAME	1 GAL	12″	12″		
	SPECIMENS/OTHER						
9	DIOON SPINULOSUM	SAME	25 GAL	4′	4′		
	ST. AUGUSTINE 'PALMETTO'	FIELD MEASURE BY CONTRACTOR					

IRRIGATION: SEE IR-1
ALL LANDSCAPE AREAS SHALL RECEIVE 100% COVERAGE BY MEANS OF AN AUTOMATIC SPRINKLER SYSTEM DESIGNED AND CONSTRUCTED PER CITY OF HOLLYWOOD CODE OF ORDINANCES, SOUTH FLORIDA BUILDING CODE, FLORIDA STATED STATUTES, AND REGULATIONS OF THE SOUTH FLORIDA WATER MANAGEMENT DISTRICT. A RAIN SENSOR DELAY SHALL BE INSTALLED ON ALL IRRIGATION SYSTEMS.

NOTE: PROVIDE 3" DEEP EUCALYPTUS MULCH TO ALL PLANT BEDS (NO CYPRESS MULCH)

NOTE: CONTRACTOR TO SUBMIT PHOTOS OF ALL PLANT MATERIALS PROPOSED TO LANDSCAPE ARCHITECT FOR APPROVAL PRIOR TO INSTALLATION

NOTE: ALL PLANTS ARE TO BE FLORIDA NO. 1 OR BETTER

NOTE: ADD/TOPDRESS 6" DEEP OF 'PROMIX HP' TO ALL PLANTERS PRIOR TO ANY PLANTINGS

NOTE: PLAN TAKES PRECEDENCE OVER PLANTING LIST - CONTRACTOR RESPONSIBLE TO PROVIDE PLANTS PER PLAN

CAUTION: PLEASE NOTE

Contractor shall secure all permits required for the work from any state or local departments, utility companies or jurisdiction affected by the work. The Contractor shall have permits "in hand" prior to starting work. The Landscape Architect and/ or Owner shall bear no responsibility for work performed without permitted drawings. The Contractor shall be responsible for all changes to Work, at no additional cost to Owner, as a result of unauthorized work prior to receipt of permit.

48 HOURS BEFORE DIGGING
CALL 811
TOLL FREE
SUNSHINE STATE UTILITIES LOCATION
ONE CALL CENTER OF FLORIDA

PRELIMINARY SUBMITTAL
NOT FOR CONSTRUCTION
SEPT 09, 2019

0 40 80
20
SCALE: 1" = 20'

NORTH

HS2G INC
LANDSCAPE ARCHITECTURE
1350 EAST SUNRISE BLVD. FT. LAUDERDALE, FL 33304
PHONE 954.326.7212 FL LICENSE NO. 000884
E-MAIL : HS2G.PFS@GMAIL.COM

PROJECT
BROWARD ACADEMY
A SEVENTH DAY ADVENTIST
9-12 EDUCATIONAL PROGRAM
1808 VAN BUREN STREET
HOLLYWOOD, FL 33020

LOCATION

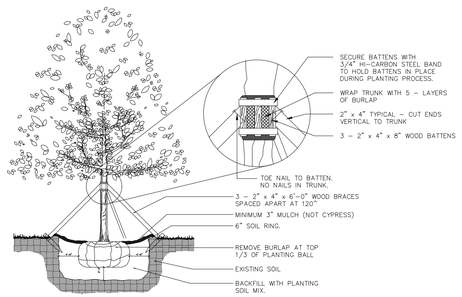
REVISIONS

SCALE	1"=20'-0"
DESIGNED BY	PFS
DRAWN BY	PFS
DATE	9/09/19

DRAWING TITLE
LANDSCAPE PLAN

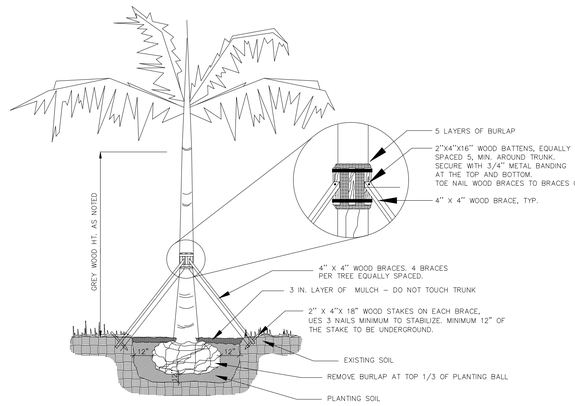
SEAL:
REGISTERED LANDSCAPE ARCHITECT
PETER STRELKOV
LA 0000884
STATE OF FLORIDA
Date:

SHEET NUMBER
L-1



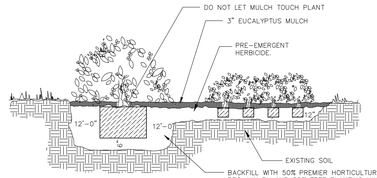
LARGE TREE PLANTING DETAIL

N.T.S. FOR TREES OVER 4 INCH CALIPER



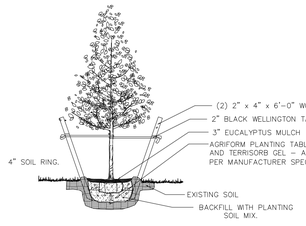
LARGE PALM PLANTING DETAIL

N.T.S.



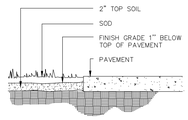
SHRUB AND GROUND COVER DETAIL

N.T.S.



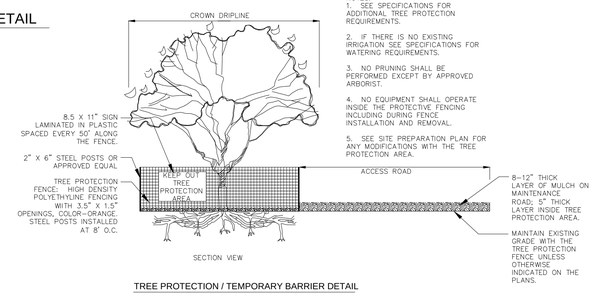
SMALL TREE PLANTING DETAIL

N.T.S. FOR TREES UNDER 3 INCH CALIPER



SOD INSTALLATION DETAIL (TYP.)

N.T.S.



NOTES:
1. SEE SPECIFICATIONS FOR ADDITIONAL TREE PROTECTION REQUIREMENTS.
2. IF THERE IS NO EXISTING IRRIGATION SEE SPECIFICATIONS FOR WATERING REQUIREMENTS.
3. NO PRUNING SHALL BE PERFORMED EXCEPT BY APPROVED ARBORIST.
4. NO EQUIPMENT SHALL OPERATE INSIDE THE PROTECTIVE FENCING INCLUDING DURING FENCE INSTALLATION AND REMOVAL.
5. SEE SITE PREPARATION PLAN FOR ANY MODIFICATIONS WITH THE TREE PROTECTION AREA.

TREE PROTECTION / TEMPORARY BARRIER DETAIL

N.T.S.

GENERAL PLANTING NOTES:

1. LANDSCAPE:

A. GENERAL: CONDITIONS AND REQUIREMENTS

1) WORK TO INCLUDE FURNISHING LABOR, MATERIALS, TOOLS AND EQUIPMENT, OBTAINING NECESSARY PERMITS; INSTALLING ALL MATERIALS NECESSARY TO COMPLETE IN PLACE THE LANDSCAPING AS SHOWN ON THE PLANS AND AS HEREIN SPECIFIED.

2) THE INSTALLATION SHALL COMPLY WITH ALL REGULATIONS OF THE COUNTY AND THE STATE OF FLORIDA. ALL LICENSES, PERMITS AND INSPECTIONS REQUIRED SHALL BE OBTAINED AND PAID FOR BY THE CONTRACTOR. AT COMPLETION OF THE WORK, THE CONTRACTOR WILL TRANSMIT ALL APPLICABLE CERTIFICATES OF INSPECTION TO THE OWNER, OR AUTHORIZED REPRESENTATIVE.

3) THE CONTRACTOR AND THE LANDSCAPE SUBCONTRACTOR SHALL PROVIDE A QUALIFIED FOREMAN PRESENT ON THE SITE AT ALL TIMES. THE FOREMAN SHALL BE WELL-VERSED IN READING AND UNDERSTANDING PLANS. THE LANDSCAPE FOREMAN SHALL BE KNOWLEDGEABLE ABOUT SOUTH FLORIDA PLANT MATERIAL AND ITS PROPER HANDLING. THE FOREMAN SHALL BE A FULLY AUTHORIZED AGENT OF THE CONTRACTOR, CAPABLE OF MAKING ON-SITE DECISIONS.

(4) CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATING ALL UTILITIES. CARE SHOULD BE TAKEN NOT TO DISTURB OR DAMAGE ANY UTILITIES. ANY DAMAGE WILL BE REPAIRED AT THE EXPENSE OF THE CONTRACTOR IN A MANNER APPROVED BY THE OWNER'S REPRESENTATIVE. WHERE UNDERGROUND CONSTRUCTION WILL NOT PERMIT THE INSTALLATION PER PLANS, NEW LOCATIONS WILL BE PROVIDED BY THE LANDSCAPE ARCHITECT (L.A).

(5) TREE LOCATIONS AND BEDS ARE TO BE STAKED IN THE FIELD PRIOR TO INSTALLATION. LOCATIONS ARE SCHMATIC AND REQUIRE ADJUSTMENT BY L.A. AND FINAL APPROVAL. ALSO, IN THE EVENT OF CONFLICTS WITH UTILITITIES, EXISTING PLANT MATERIAL, ETC., CONTACT THE L.A. TO APPROVE NEW LOCATIONS PRIOR TO PLANTING.

B. MATERIALS:

1) PLANT SIZES: ALL SIZES SHOWN FOR PLANT MATERIALS ON THE PLAN ARE TO BE CONSIDERED AS MINIMUMS. ALL PLANT MATERIAL MUST MEET OR EXCEED THESE MINIMUM REQUIREMENTS FOR BOTH HEIGHT AND SPREAD. ANY OTHER REQUIREMENTS FOR SPECIFIC SHAPE OR EFFECT AS NOTED ON THE PLAN WILL ALSO BE REQUIRED FOR ACCEPTANCE.

2) PLANT QUALITY: ALL PLANT MATERIAL FURNISHED BY THE LANDSCAPE CONTRACTOR, UNLESS OTHERWISE SPECIFIED, SHALL BE FLORIDA NO.1, OR BETTER, AND SHALL BE INSTALLED AS SPECIFIED IN "GRADES AND STANDARDS FOR NURSERY PLANTS", LATEST EDITION.

3) PLANTS NOT LISTED IN "GRADES AND STANDARDS FOR NURSERY PLANTS" SHALL CONFORM TO THE FLORIDA STANDARDS SPECIFIED FOR PLANTS LISTED WITH SIMILAR GROWTH HABITS. THE PLANT STANDARDS TO BE MET INCLUDE FREEDOM FROM PEST AND MECHANICAL DAMAGE, FOLIAGE CONDITIONS, TRUNK AND BRANCHING HABIT, AND ROOT CONDITION.

4) BALLED AND BURLAPPED (B&B) PLANTS SHALL BE HANDLED BY THE ROOTBALL ONLY. PLANTS WITH CRACKED OR LOOSE ROOTBALLS WILL NOT BE ACCEPTED. ROOTBALLS ARE TO BE A SIZE NORMAL TO SOUND NURSERY PRACTICE. ROOT SYSTEMS SHALL BE WELL-BRANCHED AND FIBROUS.

5) CONTAINER GROWN PLANTS SHALL BE WELL-ROOTED. PLANTS THAT ARE ROOTBOUND OR ARE DISPROPORTIONATELY LARGE FOR THE CONTAINER SIZE WILL NOT BE ACCEPTED.

6) PLANTS GROWN IN FLATS SHALL BE WELL-ROOTED AND HEAVILY FOLIAGED.

7) ROOT PRUNING: PLANTS SHALL BE ROOTPRUNED OR PREPARED AS NECESSARY TO AVOID TRANSPLANTING CAUSED DIEBACK, OR DEFOLIATION IN EXCESS OF TWENTY-FIVE PERCENT UNLESS ATTRIBUTED TO SEASONAL CHANGE. PLANTS EXHIBITING THESE CHARACTERISTICS WILL BE REMOVED AT THE REQUEST OF THE OWNER, OR AUTHORIZED REPRESENTATIVE.

8) PALMS: ALL PALMS SHALL BE FLORIDA GRADE NO. 1, OR BETTER, AS SPECIFIED IN "GRADES AND STANDARDS FOR NURSERY PLANTS" - LATEST COPY

UNLESS OTHERWISE SPECIFIED, ALL NON-SABAL PALMETTO SHALL BE FREE OF FROND BOOTS. PALMS WITH BURNED OR IRREGULAR TRUNKS, TRUNKS WITH NAILS IN THEM, OR CABLE AND OTHER MECHANICAL SCARS WILL BE UNACCEPTABLE. REMOVE ALL DEAD FRONDS AND TAPER TRIM BY NO MORE THAN ONE-THIRD OF PALM HEAD.

9) SUBSTITUTIONS: SUBSTITUTIONS OF PLANT TYPE OR SIZE WILL NOT BE ACCEPTED UNLESS SUBSTANTIAL DOCUMENTATION IS SUBMITTED SHOWING THE UNAVAILABILITY OF THE PARTICULAR PLANT TYPE OR SIZE. CONTRACTOR TO CONTACT L.A. PRIOR TO BID.

10) TREE PLANTING SOIL: ALL TREES INSTALLED SHALL BE PLANTED WITH SOIL THAT IS CLEAN AND AND COMPLETELY FREE OF CONSTRUCTION DEBRIS, WEEDS, VIABLE WEED SEEDS, NOXIOUS PESTS, ROCKS, DISEASE, AND MATERIALS. THE SOIL IS TO BE FIFTY PERCENT MUCK AND FIFTY PERCENT SAND.

11) SHRUB AND GROUNDCOVER SOIL: ALL PLANT MATERIAL INSTALLED SHALL BE AMENDED WITH A MINIMUM 50% MIX OF "PREMIER HORTICULTURE PRO-MIX BX" AND 50% TREE PLANTING SOIL. PLANTS NOT USING THIS MIX WILL BE REJECTED.

12) MULCH: ALL MULCH SHALL BE GRADE #1 "EUCALYPTUS OR APPROVED EQUAL.

13) PRIOR PLANT APPROVALS: CONTRACTOR TO SUBMIT PHOTOS OF THE EXACT PLANTS THAT ARE INTENDED TO BE USED ON THE PROJECT FOR PRIOR APPROVAL BY L.A. PLANTS BROUGHT TO THE SITE W/O PHOTO APPROVAL WILL BE SUBJECT TO IMMEDIATE REJECTION.

14. CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING ALL QUANTITIES OF MATERIAL ON DRAWINGS PRIOR TO SUBMITTING BID. THE PLANTING PLAN SHALL TAKE PRECEDENCE OVER THE PLANT LIST. FINAL SOD, MULCH, AND TOPSOIL QUANTITIES ARE TO BE MADE BY THE CONTRACTOR AND PROVIDED IN THE BID..

C: INSTALLATION:

1) PLANT APPROVAL AT JOB SITE: OWNER OR LANDSCAPE ARCHITECT HAS THE OPTION TO REJECT ANY MATERIAL ON-SITE THAT DOES NOT MEET SPECIFICATIONS OR IS NOT FL #1. CONTRACTOR CANNOT PROCEED WITHOUT APPROVALS.

2) PLANTING BEDS: THE PLANTING BEDS SHALL BE PREPARED TO PROVIDE ADEQUATE DRAINAGE FOR GOOD PLANT GROWTH. THE CONTRACTOR SHALL REPORT IN WRITING ANY CONTAMINANTS DISCOVERED IN A PLANTING BED THAT WOULD INHIBIT GOOD PLANT GROWTH TO THE OWNER, OR HIS AGENT, PRIOR TO PLANTING IN SUCH A CONTAMINATED PLANT BED.

(3) FERTILIZER: ALL PALMS, SHRUBS AND GROUNDCOVERS SHALL BE FERTILIZED WITH AN APPROVED GRANULAR "PALM SPECIAL" FERTILIZER 8-2-12+4 TIMED RELEASED MINIMUM 50% SLOW RELEASE RATE BY LESCO CONTAINING MINOR ELEMENTS INCLUDING IRON, MANGANESE, MAGNESIUM AND ZINC. APPLICATION SHALL BE ACCORDING TO MANUFACTURER'S SPECS. CONTRACTOR TO SUBMIT FERTILIZER LABEL PRIOR FERTILIZING ANY PLANTS FOR APPROVAL.

4) MULCH: ALL TREES IN SOD AREAS ARE TO HAVE A (30) INCH RAISED SOIL RING COVERED WITH A (3) INCH LAYER OF EUCALYPTUS MULCH. COVER ALL SHRUB AND GROUND COVER BEDS WITH A (2) INCH LAYER OF MULCH. DO NOT LET MULCH TOUCH OUTER BARK OF ANY PLANT.

5) PRE-EMERGENT HERBICIDE: ALL PLANTING BEDS TO RECIEVE 'SNAPSHOT' 2.5 TG GRANULAR OR APPROVED EQUAL PRIOR TO MULCHING. APPLY PER MANUFACTURERS SPECIFICATIONS.

6) WATERING: HAND WATERING SHALL BE DONE IMMEDIATELY. KEEP PLANTING SOIL UNIFORMLY MOIST TO MAINTAIN A HEALTHY GROWING CONDITION UNTIL FINAL JOB ACCEPTANCE BY THE OWNER, OR AUTHORIZED REPRESENTATIVE. ANY PLANTS WITH ROOT MASSES THAT DRY OUT WILL NOT BE ACCEPTABLE.

6) SODDING: PLACE ST. AUGUSTINE 'FLORITAM' SOLID SOD IN ALL AREAS NOT COVERED WITH PLANT MATERIAL OR PAVING AS NOTED ON THE PLANS. THE SOD AND SOD BED SHALL BE MOIST AT TIME OF INSTALLATION. THE SOD SHALL BE THICK, WELL-MATTED AND EVENLY CUT. THE SOD SHALL BE STRONG ENOUGH SO IT RETAINS ITS SHAPE WHEN HANDLED BY THE TOP GRASS BLADES. THE SOD PIECED SHALL BE A MINIMUM 12" X 24" SIZE. THE SOD BED IS TO BE WELL-COMPACTED AND EVEN. THE SOD SHALL BE LAID BY HAND SO THERE ARE NO GAPS OR VOIDS BETWEEN PIECES. STAGGER THE SOD PIECES BETWEEN ROWS. ON SLOPES, THE ROWS SHALL RUN 90° TO THE SLOPE DIRECTION. ROLL OR HAND TAMP THE SOD IMMEDIATELY AFTER INSTALLATION AND COMMENCE WATERING. THE SOD LEVEL SHALL BE SET SO WATERFLOW FROM ADJACENT SURFACES IS NOT IMPEDED. MAINTENANCE OF THE SOD WILL BE THE RESPONSIBILITY OF THE CONTRACTOR UNTIL ACCEPTANCE BY THE OWNER, OR AUTHORIZED REPRESENTATIVE. MOWING SHALL BE DONE OFTEN ENOUGH SO NO MORE THAN ONE-THIRD THE HEIGHT OF THE GRASS BLADE IS REMOVED. THE SOD SHALL BE GUARANTEED FREE OF WEEDS AND PESTS THAT AFFECT ITS UNIFORM APPEARANCE FOR NINETY DAYS. SOD LINES AT SHRUB BEDS, TREE RINGS AND PAVEMENTS SHALL BE CUT EVEN AND SHARP.

7) TREE GUYING AND STAKING: SEE PLANTING DETAILS

8) PLANTING: REMOVE THE EXCAVATED SOIL MATERIAL FROM THE PLANT HOLES. INSTALL PLANT AT CORRECT LEVEL (SEE DETAIL). GROUNDCOVER PLANTING AREAS ARE TO BE EXCAVATED TO A DEPTH OF 12 INCHES. SHRUB PLANTING AREAS ARE TO BE EXCAVATED SIX INCHES DEEPER THAN THE ROOT DEPTH AND 12 INCHES GREATER IN RADIUS.

EXCAVATE ALL TREE PLANTING HOLES TWELVE INCHES DEEPER THAN THE ROOTBALL DEPTH. LOOSEN THE BOTTOM OF THE HOLE SIX INCHES DEEPER THAN THE REQUIRED HOLE DEPTH. TREES WITH ROOTBALLS TWO FEET IN DIAMETER OR LESS SHALL BE PLANTED IN HOLES 18 INCHES GREATER IN RADIUS. TREES WITH ROOTBALLS GREATER THAN TWO FEET AND LESS THAN FOUR FEET IN DIAMETER SHALL BE PLANTED IN HOLES 2 FEET GREATER IN RADIUS.

SET ALL PLANTS ON A FIRM WELL COMPACTED BASE IN A STRAIGHT UPRIGHT POSITION AT THE SAME DEPTH AS BEFORE TRANSPLANTING SO THE TOP OF THE ROOTBALL IS EQUAL TO THE LEVEL OF THE SURROUNDING FINISHED GRADE. WHEN BACKFILLING AROUND THE PLANTS, TAMP AND WATER IN THE TOP SOIL TO ELIMINATED AIRPOCKETS. RELEVEL AND FILL ANY AREAS THAT SETTLE AFTER COMPLETION OF THE JOB. THE OWNER OR AUTHORIZED REPRESENTATIVE WILL REQUIRE PLANTS BE RESET IF NOT SET PROPERLY.

9) PRUNING/TRANSPLANTING: ALL PRUNING OR TRANSPLANTING SHALL BE DONE BY CERTIFIED AND LICENSED I.S.A. ARBORISTS IN ACCORDANCE WITH STANDARDS SET FORTH BY THE INTERNATIONAL SOCIETY OF ABORICULTURE USING ANSI A300 STANDARDS. NO PRUNING SHALL BE BE DONE TO ADVERSELY AFFECT THE NATURAL HABIT OR SHAPE OF PLANTS UNLESS OTHERWISE SPECIFIED. ROOTS THAT ARE BROKEN OR JAGGED SHALL BE CUT CLEANLY. THE OWNER OR AUTHORIZED REPRESENTATIVE RESERVES THE RIGHT TO REQUIRE ADDITIONAL PRUNING FOR AESTHETIC OR OTHER REASON. PRUNING TO BE DONE BY CERTIFIED ARBORIST ONLY.

10) FINAL COMPLETION: THE CONTRACTOR SHALL BE RESPONSIBLE FOR LEAVING THE JOB SITE FREE OF ALL CONSTRUCTION DEBRIS AND IN AN ORDERLY STATE. CLEAN ALL WALKS, PAVING, AND SITE FEATURES OF DIRT, TIRE MARKS AND OTHER DEBRIS. WEEDING OF PLANT BEDS, PRUNING OF SHRUBS, CUTTING AND TRIMMING OF GRASS WILL BE DONE UNTIL THE JOB IS COMPLETE AND ACCEPTED BY THE OWNER OR AUTHORIZED REPRESENTATIVE. UNTIL FINAL ACCEPTANCE, THE PLANT MATERIALS ARE THE SOLE RESPONSIBILITY OF THE CONTRACTOR.

11) GUARANTEE: ALL PLANT MATERIAL AND WORK SHALL BE GUARANTEED FOR ONE YEAR FROM DATE OF FINAL JOB ACCEPTANCE. DURING THE ONE YEAR GUARANTEE, ANY PLANT MATERIAL THAT DIES, OR IS IN AN UNHEALTHY CONDITION SHALL BE REPLACED WITH THE SAME PLANT TYPE AT LEAST EQUAL TO THE SIZE AND QUALITY ORIGINALLY SPECIFIED. THE REPLACEMENT MATERIAL SHALL BE INSTALLED WITHIN (2) WEEKS OF NOTICE FROM OWNER AND SHALL ALSO BE GUARANTEED FOR 6 MONTHS FROM THE DATE OF ITS INSTALLATION. THE GUARANTEE WILL BE NULL AND VOID IF PLANT MATERIAL IS DAMAGED OR KILLED BY LIGHTNING, HURRICANE FORCE WINDS, HAIL OR FREEZE.

HS2G INC
LANDSCAPE ARCHITECTURE
FL. LICENSE NO. 26000507
4474 WESTON ROAD SUITE 144 DAVIE, FL 33331
HS2G.PFS@GMAIL.COM 954.326.7212

CAUTION: PLEASE NOTE

Contractor shall secure all permits required for the work from any state or local departments, utility companies or jurisdiction affected by the work. The Contractor shall have permits "in hand" prior to starting work. The Landscape Architect and/ or Owner shall bear no responsibility for work performed without permitted drawings. The Contractor shall be responsible for all changes to Work, at no additional cost to Owner, as a result of unauthorized work prior to receipt of permit.

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PLANT DETAILS

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JULY 29, 2019

HS2G INC
LANDSCAPE ARCHITECTURE
1350 EAST SUNRISE BLVD. FT. LAUDERDALE, FL 33304
PHONE 954.326.7212 FL LICENSE NO. 000884
E-MAIL : HS2G.PFS@GMAIL.COM

PROJECT
BROWARD ACADEMY
A SEVENTH DAY ADVENTIST
9-12 EDUCATIONAL PROGRAM
1808 VAN BUREN STREET
HOLLYWOOD, FL 33020

LOCATION

REVISIONS

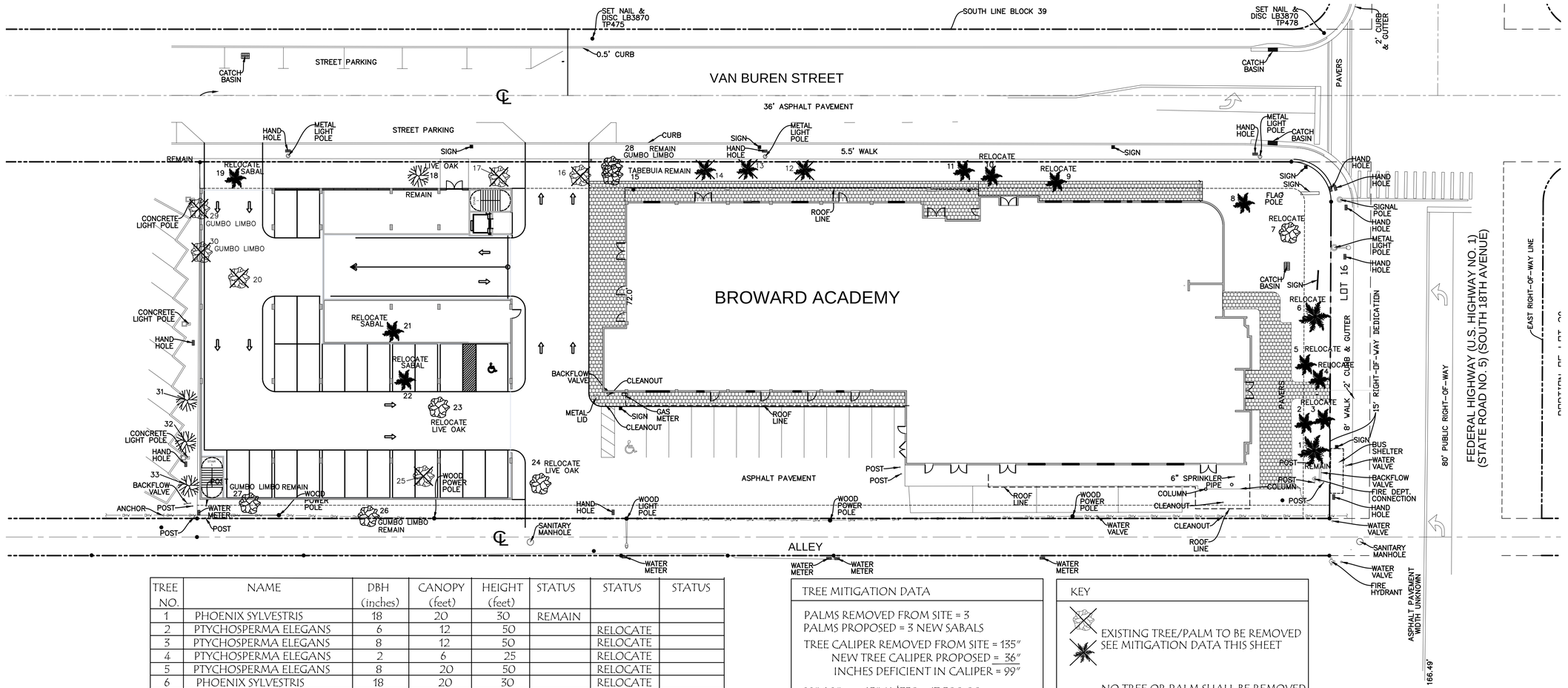
S & S

SCALE	1"=20'-0"
DESIGNED BY	PFS
DRAWN BY	PFS
DATE	8/17/19

DRAWING TITLE
PLANT DETAILS

SEAL:
REGISTERED LANDSCAPE ARCHITECT
PETER STRELKOV
LA 0000884
STATE OF FLORIDA
Date:_____

SHEET NUMBER
L-2



TREE NO.	NAME	DBH (inches)	CANOPY (feet)	HEIGHT (feet)	STATUS	STATUS	STATUS
1	PHOENIX SYLVESTRIS	18	20	30	REMAIN		
2	PTYCHOSPERMA ELEGANS	6	12	50		RELOCATE	
3	PTYCHOSPERMA ELEGANS	8	12	50		RELOCATE	
4	PTYCHOSPERMA ELEGANS	2	6	25		RELOCATE	
5	PTYCHOSPERMA ELEGANS	8	20	50		RELOCATE	
6	PHOENIX SYLVESTRIS	18	20	30		RELOCATE	
7	MAGNOLIA VIRGINIANA	10	14	25		RELOCATE	
8	PTYCHOSPERMA ELEGANS	10	20	35	REMAIN		
9	PTYCHOSPERMA ELEGANS	4	10	30		RELOCATE	
10	PTYCHOSPERMA ELEGANS	4	10	35		RELOCATE	
11	WODYETIA BIFURCATA	10	10	20		RELOCATE	
12	WODYETIA BIFURCATA	3	7	10			REMOVE
13	WODYETIA BIFURCATA	3	7	10			REMOVE
14	WODYETIA BIFURCATA	10	10	20			REMOVE
15	BURSERA SIMARUBA	10	20	20			
16	SWETENIA MAHOGONI	18	30	40			REMOVE
17	SWETENIA MAHOGONI	15	30	40			REMOVE
18	QUERCUS VIRGINIANA	24	40	40	REMAIN		
19	SABAL PALMETTO	18	14	30		RELOCATE	
20	MANGIFERA INDICA	36	40	45			REMOVE
21	SABAL PALMETTO	12	14	25		RELOCATE	
22	SABAL PALMETTO	12	14	25		RELOCATE	
23	QUERCUS VIRGINIANA	24	40	40		RELOCATE	
24	QUERCUS VIRGINIANA	18	30	30		RELOCATE	
25	QUERCUS VIRGINIANA	24	40	40			REMOVE
26	BURSERA SIMARUBA	12	20	25	REMAIN		
27	BURSERA SIMARUBA	48	50	35	REMAIN		
28	TABEBUIA SP.				REMAIN		
29	BURSERA SIMARUBA	24	40	40			REMOVE
30	BURSERA SIMARUBA	18	30	40			REMOVE
31	QUERCUS VIRGINIANA	10	20	35	ADJACENT PROPERTY		
32	QUERCUS VIRGINIANA	18	30	45	ADJACENT PROPERTY		
33	QUERCUS VIRGINIANA	8	10	20	ADJACENT PROPERTY		

TREE MITIGATION DATA

PALMS REMOVED FROM SITE = 3
PALMS PROPOSED = 3 NEW SABALS

TREE CALIPER REMOVED FROM SITE = 135″
NEW TREE CALIPER PROPOSED = 36″
INCHES DEFICIENT IN CALIPER = 99″

99″ / 2″ = 45″ X $350 = 17,500.00

REPLACEMENT VALUE TO BE PROVIDED TO CITY TREE FUND

KEY

EXISTING TREE/PALM TO BE REMOVED
SEE MITIGATION DATA THIS SHEET

NO TREE OR PALM SHALL BE REMOVED WITHOUT A TREE REMOVAL PERMIT

CODE REQUIREMENTS ZONING AREA FH-2

STREET TREES:
(1) TREE PER 50 LINEAR FEET
US 1 = 120 LINEAR FT + VAN BUREN ST 412 LIN FT = 562 LIN FEET
REQUIRED 562 /50 = 12 TREES
EXISTING = 2 TREES (2 EXISTING LARGE DATE PALMS)
PROPOSED = 10 NEW TREES

SITE OPEN SPACE TREES:
(1) TREE PER 1000 S.F. PERVIOUS AREA
8470 S.F. PERVIOUS AREA
REQUIRED = 9 TREES
EXISTING = 4 TREES + 3 SABALS (1) = 5 TREES
RELOCATED = 3 TREES + 3 SABALS (1) = 4 TREES
NEW TREES = 3 SABALS (1) = 1 TREE

TOTAL CODE TREES REQUIRED = 21 TREES
TOTAL CODE TREES PROVIDED = 21 TREES

NATIVE TREES REQUIRED (60%) = 13
PROPOSED = 21

NATIVE SHRUBS REQUIRED (50%)
PROPOSED = 100% NATIVE SHRUBS

CAUTION: PLEASE NOTE

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AUGUST 18, 2019

MITIGATION PLAN

0 40 80
20
SCALE: 1″ = 20′

NORTH

HS2G INC
LANDSCAPE ARCHITECTURE
1350 EAST SUNRISE BLVD. FT. LAUDERDALE, FL 33304
PHONE 954.326.7212 FL LICENSE NO. 000884
E-MAIL : HS2G.PFS@GMAIL.COM

PROJECT
BROWARD ACADEMY
A SEVENTH DAY ADVENTIST
9-12 EDUCATIONAL PROGRAM
1808 VAN BUREN STREET
HOLLYWOOD, FL 33020

LOCATION

REVISIONS

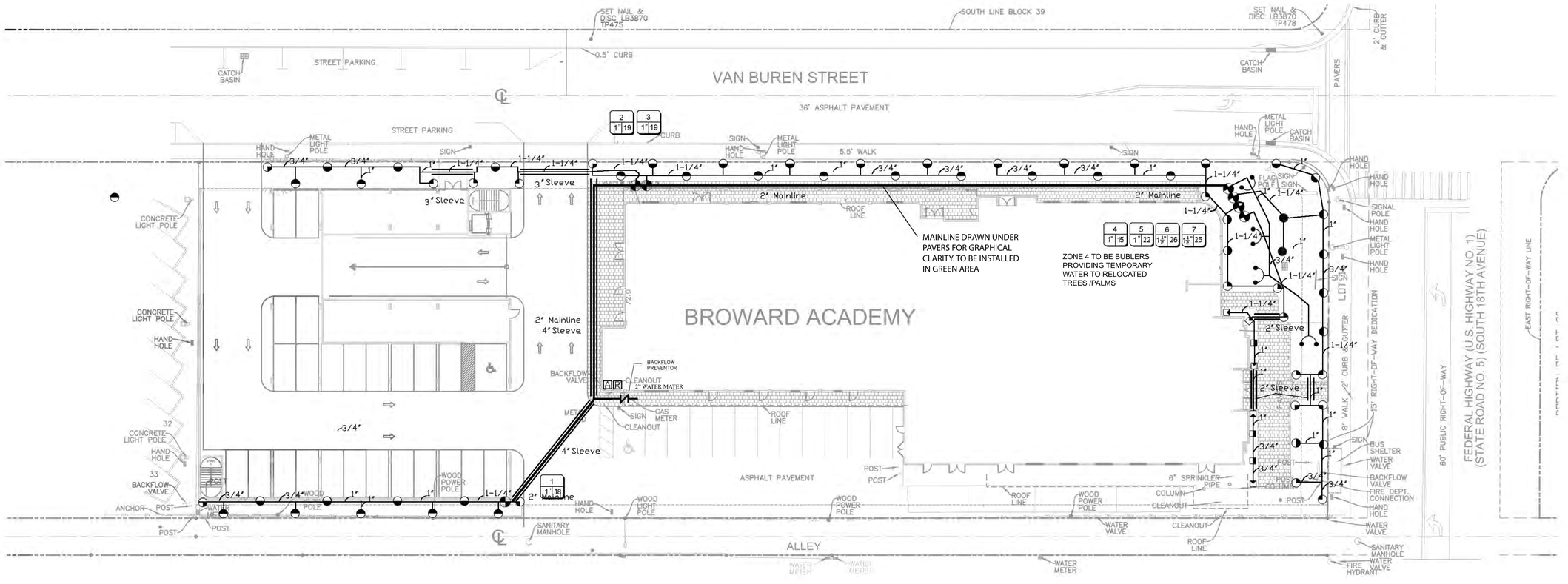
SCALE	1″=20′-0″
DESIGNED BY	PFS
DRAWN BY	PFS
DATE	9/09/19

DRAWING TITLE
MITIGATION PLAN

SEAL:
REGISTERED LANDSCAPE ARCHITECT
PETER STRELKOV
LA 0000884
STATE OF FLORIDA

Date:_____

SHEET NUMBER
M-1



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PROJECT
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A SEVENTH DAY ADVENTIST
9-12 EDUCATIONAL PROGRAM
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HOLLYWOOD, FL 33020

LOCATION

REVISIONS

SCALE	1"=20'-0"
DESIGNED BY	
DRAWN BY	
DATE	9/8/19

DRAWING TITLE
IRRIGATION PLAN

SEAL:

Date:_____

SHEET NUMBER
IR-1

Irrigation Notes

LAYOUT
LAYOUT IRRIGATION SYSTEM MAINLINES AND LATERAL LINES. MAKE ALL NECESSARY ADJUSTMENTS AS REQUIRED TO TAKE INTO ACCOUNT ALL SITE OBSTRUCTIONS AND LIMITATIONS PRIOR TO EXCAVATING TRENCHES.
FLAG ALL SPRINKLER HEAD LOCATIONS. ADJUST LOCATION AND MAKE THE NECESSARY MODIFICATIONS TO NOZZLE TYPES ETC. AS REQUIRED TO INSURE 100% COVERAGE AND 50% OVERLAP.
LOW ANGLE TRAJECTORY NOZZLES SHALL BE USED WHEN ALL SPRINKLERS AND ROTORS ARE LOCATED WITHIN 100' OF POOLS OR PUBLIC GATHERING AREAS.
PIPE
PIPE LOCATIONS SHOWN ON PLAN ARE SCHEMATIC ONLY AND SHALL BE ADJUSTED IN THE FIELD. WHEN LAYING-OUT MAINS AND LATERALS, LOCATE PIPE NEAR EDGES OF PAVEMENT OR AGAINST BUILDINGS WHEREVER POSSIBLE TO ALLOW SPACE FOR PLANT ROOT BALLS.
PIPING UNDER HARDSCAPES SUCH AS ROADS, WALKS, AND PATIOS ARE TO BE SLEEVED USING SCH. 40 PIPE.
PIPES 4" AND UNDER TO BE SOLVENT WELD. LARGER PIPES TO BE GASKETED 'O' RING PIPES AND USE THRUST BLOCKS OR MEGA LUGS AND DUCTILE IRON FITTINGS AT TURNING LOCATIONS.
*SIZE ALL PIPE SO NOT TO EXCEED 5' PER SECOND
*INSTALL RAIN SENSOR AS PER LOCAL CODE
WIRES
LOW VOLTAGE WIRE TO BE INSTALLED ALONG MAINLINE INSTALLATION. USE 2" SCH. 40 PVC WITH SWEEP ELBOWS AT TURNING LOCATIONS WHEN SLEEVING IS REQUIRED. ALL SPLICES SHALL BE ENCLOSED WITHIN A VALVE/SPLICE BOX.
WIRE SIZED AND COLORED AS FOLLOWS:
#12 WHITE FOR COMMON
#12 SPARE BLACK COMMON (1 SPARE NEEDED PER 10 HOT WIRES)
#14 RED HOT WIRES
#14 SPARE YELLOW HOT WIRE (1 SPARES NEEDED PER 10 HOT WIRES, 3 SPARE MINIMUM)
WHEN WIRE RUNS EXCEEDS 3,500 LINEAR FEET, USE #10 FOR COMMON WIRES AND #12 FOR HOT/SPARE WIRES.
ALL IRRIGATION CONTROLLERS TO BE PROPERLY GROUNDED IN ACCORDANCE WITH MANUFACTURE'S RECOMMENDATIONS.
DESIGN
THIS DESIGN IS DIAGRAMMATIC. ALL IRRIGATION EQUIPMENT SUCH AS PIPES, VALVES, , ETC., SHOWN WITHIN PERVIOUS AREAS ARE FOR DESIGN CLARIFICATION ONLY. THE IRRIGATION CONTRACTOR SHALL INSTALL IRRIGATION EQUIPMENT IN PLANTING AREAS WHEREVER POSSIBLE.

THE IRRIGATION CONTRACTOR IS RESPONSIBLE TO FAMILIARIZE THEMSELVES WITH THE SCOPE OF WORK, INCLUDING BUT NOT LIMITED TO GRADE DIFFERENCES, LOCATION OF WALLS, STRUCTURES, UTILITIES AND EXISTING IRRIGATION EQUIPMENT. THE IRRIGATION CONTRACTOR IS RESPONSIBLE SHALL REPAIR AND/OR REPLACE ANY DAMAGE CREATED BY THEIR WORK. THEY SHALL COORDINATE HIS WORK WITH OTHER CONTRACTOR OR MUNICIPAL AUTHORITIES FOR THE LOCATION AND INSTALLATION OF IRRIGATION EQUIPMENT UNDER ROADWAYS AND PAVING, SLEEVES THROUGH WALLS AND FLOORS, ETC.
INSTALL ALL IRRIGATION EQUIPMENT PER MANUFACTURER'S RECOMMENDATIONS AND SPECIFICATIONS. SUBSTITUTIONS FOR IRRIGATION EQUIPMENT TO BE APPROVED BY THE IRRIGATION DESIGNER. EQUIPMENT CHANGES TO INCLUDE BUT NOT LIMITED TO PUMP, CONTROLLER, SPRAY HEADS, ROTORS, AND VALVES.
DO NOT INSTALL IRRIGATION EQUIPMENT AS SHOWN ON THE DRAWINGS WHEN FIELD CONDITIONS DIFFER. OBSTRUCTIONS OR DIFFERENCES TO BE BROUGHT TO THE ATTENTION OF THE ARCHITECT. IN THE EVENT THIS NOTIFICATION IS NOT PERFORMED, THE IRRIGATION CONTRACTOR TO ASSUME FULL RESPONSIBILITY..
FLUSHING
PRIOR TO PLACEMENT OF HEADS FLUSH ALL LINES UNTIL LINES ARE COMPLETELY CLEAR DEBRIS.
TRENCHING
TRENCH BOTTOM TO BE UNIFORM AND FREE OF DEBRIS. NATIVE EXCAVATED MATERIAL USED TO BACKFILL TRENCH SHALL BE FREE FROM ROCKS OR STONES LARGER THAN 1" IN DIAMETER.
MISC.
PRESSURE TEST MAINLINE AS PER FLORIDA BUILDING CODE. INSTALL IRRIGATION SYSTEM AS PER LATEST EDITION OF THE FLORIDA BUILDING CODE, APPENDIX F., AND ALL PERTINENT LOCAL CODES.
SPRAY HEADS INSTALLED IN SHRUB AREAS TO BE 12 INCH POP-UPS OR INSTALLED ON RISERS.

EQUIPMENT TABLE

Controllers

Symbol	Description
	Rainbird ESP
	Rain Sensor

Irrigation Heads

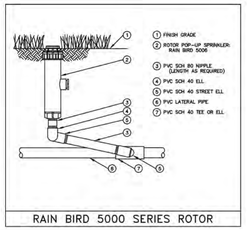
Symbol	Description
	RAINBIRD 1800 SERIES 8 Series 6" above finish grade trajectory 5 deg 90°
	RAINBIRD 1800 SERIES 8 Series 6" above finish grade trajectory 5 deg 180°
	RAINBIRD 1800 SERIES 10 Series trajectory 15 deg 90°
	RAINBIRD 1800 SERIES 10 Series trajectory 15 deg 180°
	RAINBIRD 1800 SERIES 12 Series trajectory 30 deg 90°
	RAINBIRD 1800 SERIES 12 Series trajectory 30 deg 180°
	RAINBIRD 1800 SERIES 12 Series trajectory 30 deg 360°
	RAINBIRD 1800 SERIES 15 Series trajectory 30 deg 90°
	RAINBIRD 1800 SERIES 15 Series trajectory 30 deg 180°
	RAINBIRD 1800 SERIES 15 Series trajectory 30 deg 360°
	RAINBIRD 1800 SERIES 15 Strip Series trajectory 30 deg EST*
	RAINBIRD 1800 SERIES 15 Strip Series trajectory 30 deg SST*
	RAINBIRD 1800 SERIES SQ Nozzle 4 Feet Throw EST*
	RAINBIRD 5000 Series Nozzle 2 360°
	RAINBIRD 5000 Series Nozzle 2 ADJ°

Pipes

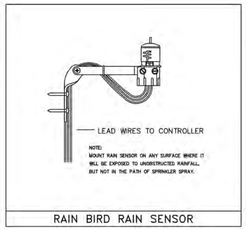
Symbol	Description
	Class 160 PVC (Lateral)
	SCH 40 PVC (Mainline)
	SCH 40 PVC (Sleeve)

Valves

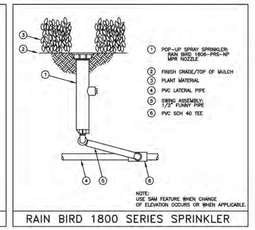
Symbol	Description
	Rainbird PGA Valve



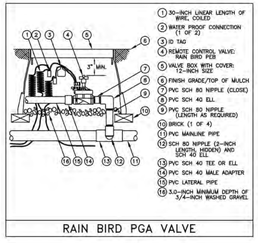
RAIN BIRD 5000 SERIES ROTOR



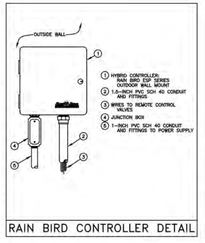
RAIN BIRD RAIN SENSOR



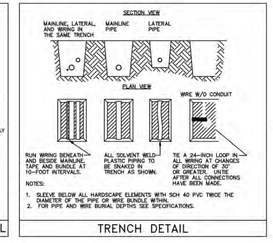
RAIN BIRD 1800 SERIES SPRINKLER



RAIN BIRD PGA VALVE



RAIN BIRD CONTROLLER DETAIL



TRENCH DETAIL

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PRELIMINARY SUBMITTAL
NOT FOR CONSTRUCTION
AUGUST 18, 2019

0 40 80
20
SCALE: 1" = 20'

NORTH

Seventh Day Adventist Church School

1808 Van Buren Street
Hollywood, Broward County, Florida

prepared for:
Seventh Day Adventist Church School

traffic study

TRAFTECH ENGINEERING, INC.

August 2019

TRAFTECH
ENGINEERING, INC.

August 19, 2019

Seventh Day Adventist Church School
c/o Alfonso Jurado, AIA, LEED AP
alfonsojurado / Architecture

Re: **Seventh Day Adventist Church School – Traffic Study**

Dear Alfonso:

Traf Tech Engineering, Inc. is pleased to provide you with the results of this traffic study undertaken for the proposed Seventh Day Adventist Church School to be located at 1808 Van Buren Street in City of Hollywood in Broward County, Florida

It has been a pleasure working with you on this project.

Sincerely,

TRAF TECH ENGINEERING, INC.

Joaquin E. Vargas, P.E.
Senior Transportation Engineer

JOAQUIN E. VARGAS
LICENSE
No 44174
STATE OF
FLORIDA
PROFESSIONAL ENGINEER

August 19, 2019

8400 N. University Drive, Suite 309, Tamarac, FL 33321 T: 954-582-0988 F: 954-582-0989

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INTRODUCTION

Seventh Day Adventist Church School is a proposed educational institution planned to be located at 1808 Van Buren Street in City of Hollywood in Broward County, Florida. The location of the school site is illustrated in Figure 1 on the following page.

Traf Tech Engineering, Inc. has been retained by the Seventh Day Adventist Church to conduct a traffic study in connection with this education facility. The subject school will have a capacity of 160 students. This study addresses trip generation and the traffic impacts created by the proposed project on the nearby transportation network. This study is divided into eight (8) sections, as listed below:

1. Inventory
2. Existing Conditions
3. Traffic Counts
4. Trip Generation
5. Trip Distribution and Traffic Assignment
6. Traffic Analyses
7. Accumulation Analysis
8. Conclusions and Recommendations

Traf Tech
ENGINEERING, INC.

PROJECT LOCATION MAP

FIGURE 1
Seventh Day Adventist
Church School
Hollywood, Florida

INVENTORY

Existing Land Use

The site is currently occupied with a church and related facilities (Seventh Day Adventist Church).

Proposed Land Use and Access

The site will be developed with a new school housing 160 students (Grades 9-12). The proposed school is anticipated to be built and occupied in the Fall of 2021. Appendix A contains the proposed site plan for the proposed School.

EXISTING CONDITIONS

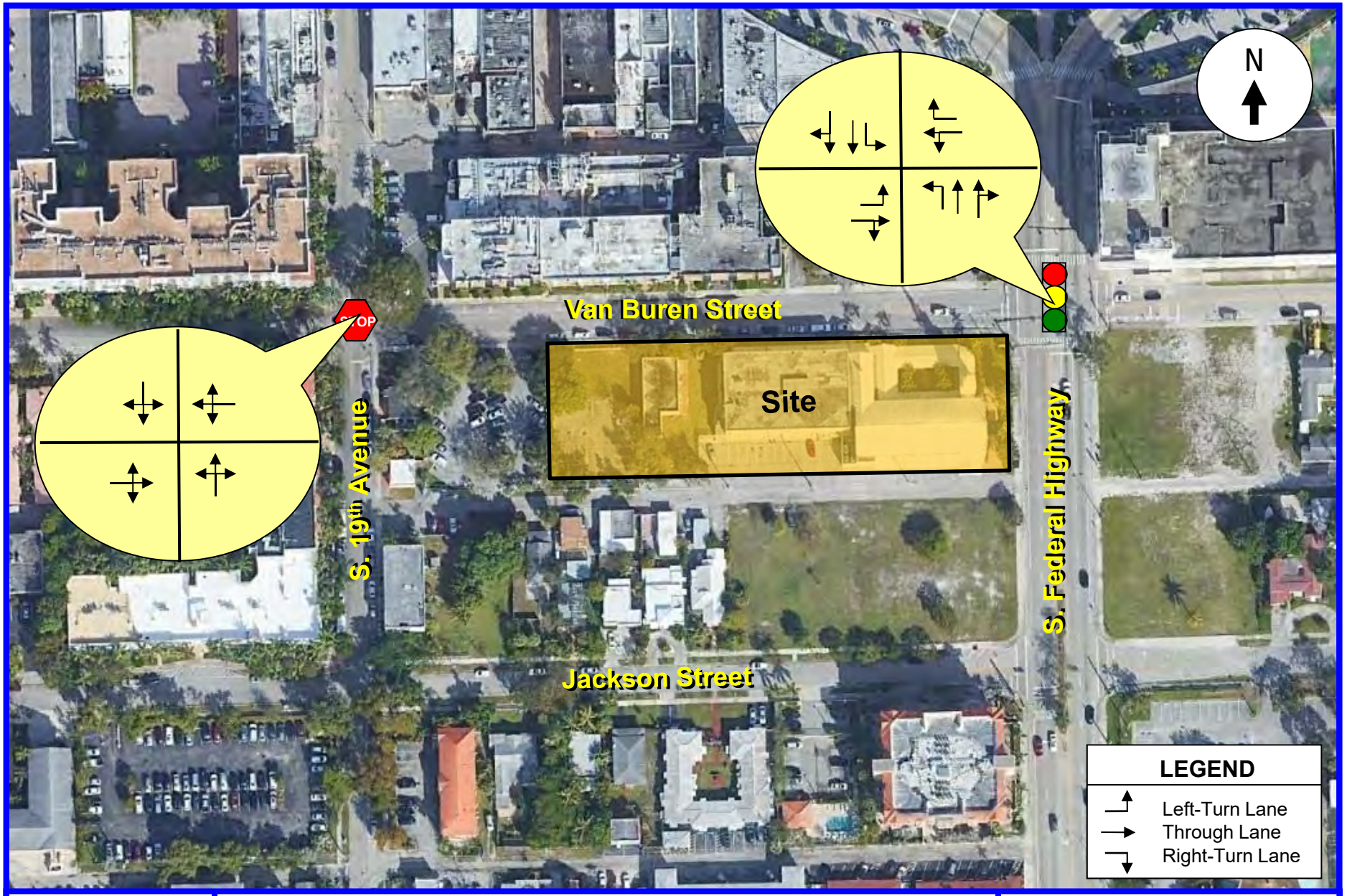
This section of the report addresses the transportation system located in the vicinity of the project site.

Roadway System

The roadway system located in the vicinity of the proposed school includes Van Buren Street, S. Federal Highway, and S. 19th Avenue. Van Buren Street is 2-lane local street oriented in the east-west direction. S. Federal Highway is a north-south arterial roadway with two through lanes in each direction (four-lane facility) with center turn lanes and a posted speed limit of 45 miles per hour. S. 19th Avenue is a 2-lane local street oriented in the north-south direction.

Nearby Intersection

The closest intersections to the school site include the intersection of Van Buren Street & S. Federal Highway is controlled with a traffic signal and the intersection of Van Buren Street & S. 19th Avenue is currently controlled by stop signs (all-way stop control intersection). Figure 2 shows the existing lane geometry of the closest intersections and the number of lanes on the street system surrounding the school site is also depicted in this figure.



Traf Tech
ENGINEERING, INC.

EXISTING LANE GEOMETRY

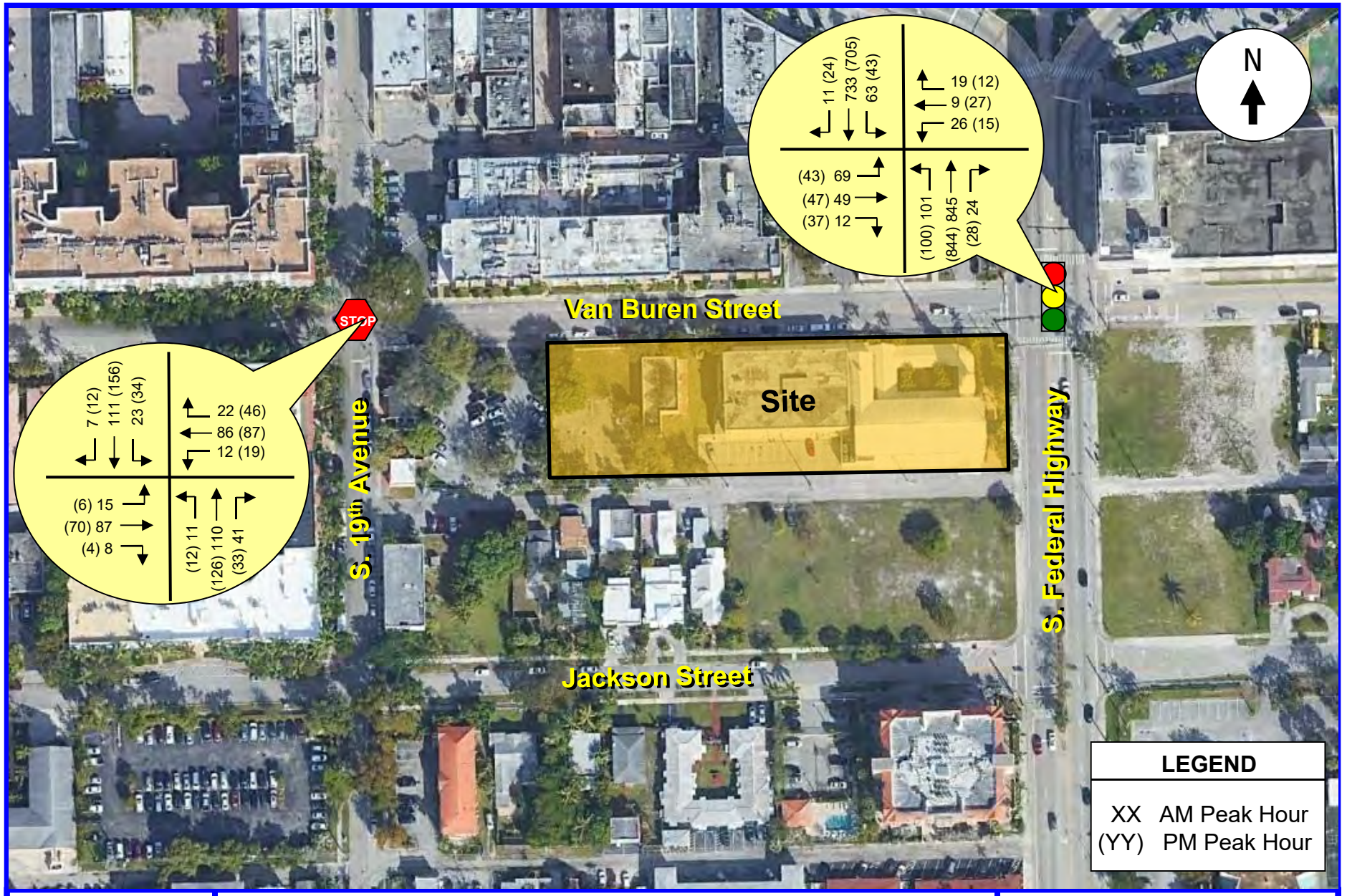
FIGURE 2
Seventh Day Adventist
Church School
Hollywood, Florida

TRAFFIC COUNTS

Traf Tech Engineering, Inc., in association with Video Data Solutions, Inc., collected traffic data at the following locations:

- Van Buren Street and S. Dixie Highway (signal)
- Van Buren Street and S. 19th Avenue (stop)

The intersection turning movement counts were collected on Wednesday, May 22, 2019 during the AM peak period (7:00 AM to 9:00 AM) and the PM peak period (2:00 PM to 4:00 PM). The existing AM and PM peak hour traffic counts are presented in Figure 3 on the following page. Appendix B contains the traffic data as collected in the field. The signal timing plan for the signalized intersection is also contained in Appendix B.



Traf Tech
ENGINEERING, INC.

EXISTING TRAFFIC COUNTS

FIGURE 3
Seventh Day Adventist
Church School
Hollywood, Florida

TRIP GENERATION

A trip generation analysis was conducted for the proposed school. The analysis was performed using the trip generation equations published in the Institute of Transportation Engineer's ITE Trip Generation Manual (10th Edition). The trip generation analysis was undertaken for daily, AM peak hour, and PM peak hour conditions.

According to ITE's Trip Generation Manual (10th Edition), the most appropriate "land use" category for the proposed land use is:

PRIVATE SCHOOL[1] (ITE Land Use 534)

Daily Trip Generation
T = 4.11 (X)
Where T = number of daily trips
X = number of students

AM Peak Hour of Generator
T = 0.93 (X) (56% inbound and 44% outbound)
Where T = number of AM peak hour trips
X = number of students

PM Peak Hour of Generator
T = 0.62 (X) (47% inbound and 53% outbound)
Where T = number of PM peak hour trips
X = number of students

Using the above-listed trip generation equations from the ITE document, a trip generation analysis was undertaken for the proposed project. The results of this effort are documented in Table 1 below.

TABLE 1
Trip Generation Summary (Proposed Uses)
Seventh Day Adventist Chruch School

			AM Peak Hour			PM Peak Hour		
Land Use	**Size**	**Daily Trips**	**Total Trips**	**Inbound**	**Outbound**	**Total Trips**	**Inbound**	**Outbound**
Private School	160	658	149	83	66	99	47	52
External Trips		**658**	**149**	**83**	**66**	**99**	**47**	**52**

Source: ITE Trip Generation Manual (10th Edition)

[1] ITE has two private school Land Uses (534 and 536). In order to assess impacts with a conservative approach, the Land Use with the highest trip generation was used (LUC 534).

As indicated it Table 1, the proposed school is anticipated to generate approximately 658 daily trips, approximately 149 AM peak hour trips (83 inbound and 66 outbound) and approximately 99 trips (47 inbound and 52 outbound) during the school's afternoon peak hour.

TRIP DISTRIBUTION AND TRAFFIC ASSIGNMENT

The trip distribution and traffic assignment for the project were based on the residential homes located within a 2-mile radius from the site. Based on this procedure, the following traffic assignment was developed for the proposed school project:

- 30% to and from the north via S. Federal Highway
- 30% to and from the south via S. Federal Highway
- 15% to and from the east via Van Buren Street
- 5% to and from the west via Van Buren Street
- 10% to and from the north via S. 19th Avenue
- 10% to and from the south via S. 19th Avenue

The new peak hour traffic generated by the school was assigned to the nearby transportation network using the traffic assignment documented above. The project traffic assignment is summarized in Figure 4.

Traf Tech
ENGINEERING, INC.

PROJECT TRAFFIC ASSIGNMENT

FIGURE 4
Seventh Day Adventist
Church School
Hollywood, Florida

This section of the study is divided into two (2) parts. The first part consists of developing the future conditions traffic volumes for the study area. The second part includes level-of-service analyses for future conditions with and without the school.

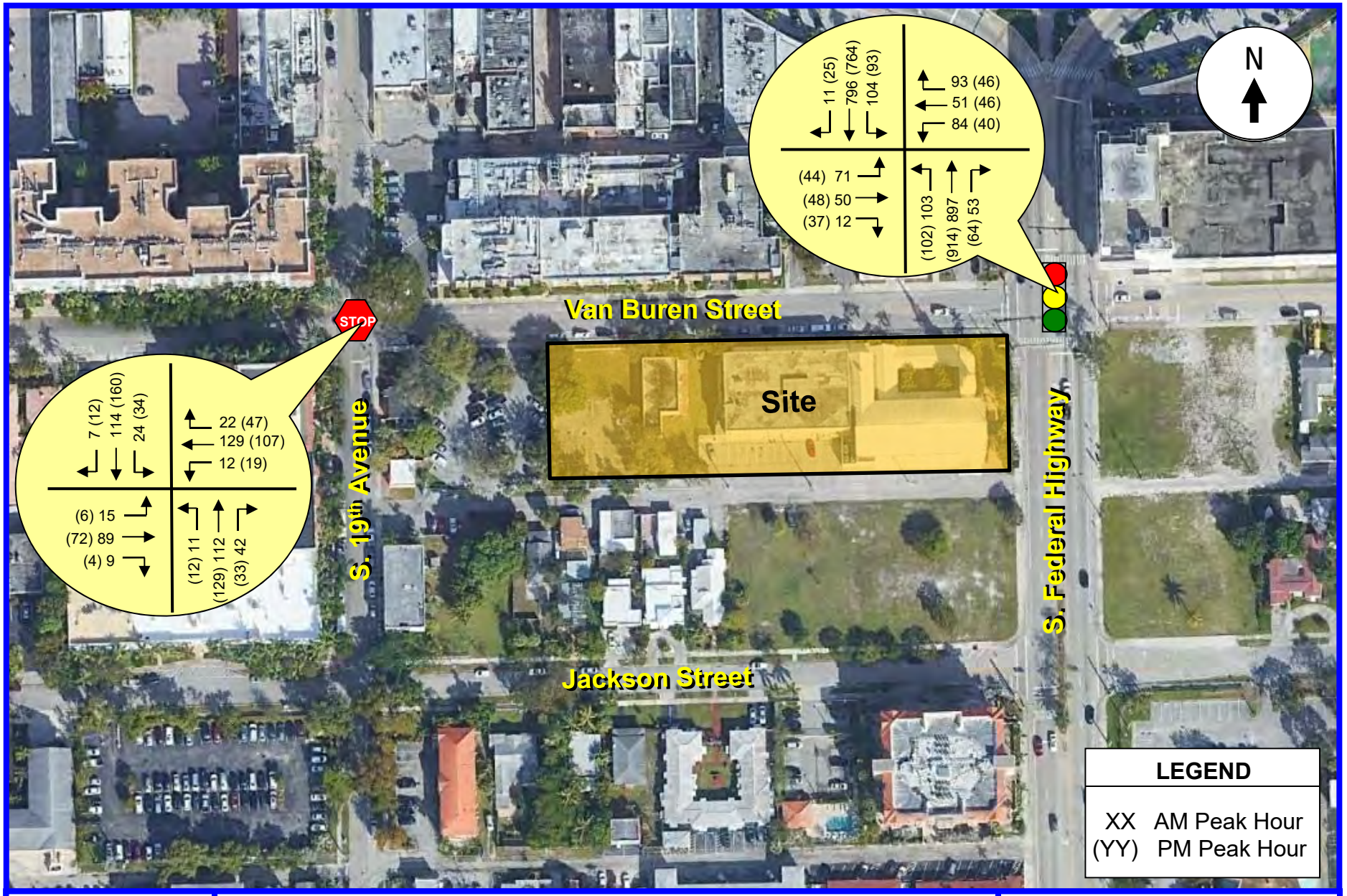
Future Conditions Traffic Volumes

Two sets of future traffic volumes were developed. The first set includes project buildout conditions without the proposed project and the second set adds the new trips anticipated to be generated by the project.

In order to develop year 2021 traffic volumes (the school is anticipated to be built and occupied by the year 2021), without the proposed project, two separate analyses were undertaken. The first analysis converts the existing peak hour traffic counts collected in the field during the month of May to average peak season conditions. Based on FDOT's Peak Season Factor Category report a factor of 1.05 is required to convert traffic counts collected during the fourth week of May to average peak season conditions (refer to Appendix D). The second analysis includes a growth factor to project 2019 peak season traffic volumes to the year 2021. Historical traffic count stations located in the area were used to estimate a growth rate of 1.0 % per year. This growth factor was used to assess future traffic projections with a conservative approach since traffic growth in the area is very low. Also, approved project traffic (committed trips) that may impact the study intersections were added. Committed development trips from Block 55, Block 40, and Parc Place Phase 1 and 2 were included in the analysis.

The future traffic calculations (peak season adjustments, traffic growth, committed developments and the traffic associated with the proposed school) for the study intersections are contained in Appendix E in tabular format.

The new trips generated by the school (refer to Figure 4) were added to the 2021 background traffic in order to develop total traffic conditions. Figure 5 includes background traffic only (without the proposed project) and Figure 6 includes the additional traffic anticipated to be generated by the proposed school.



Traf Tech
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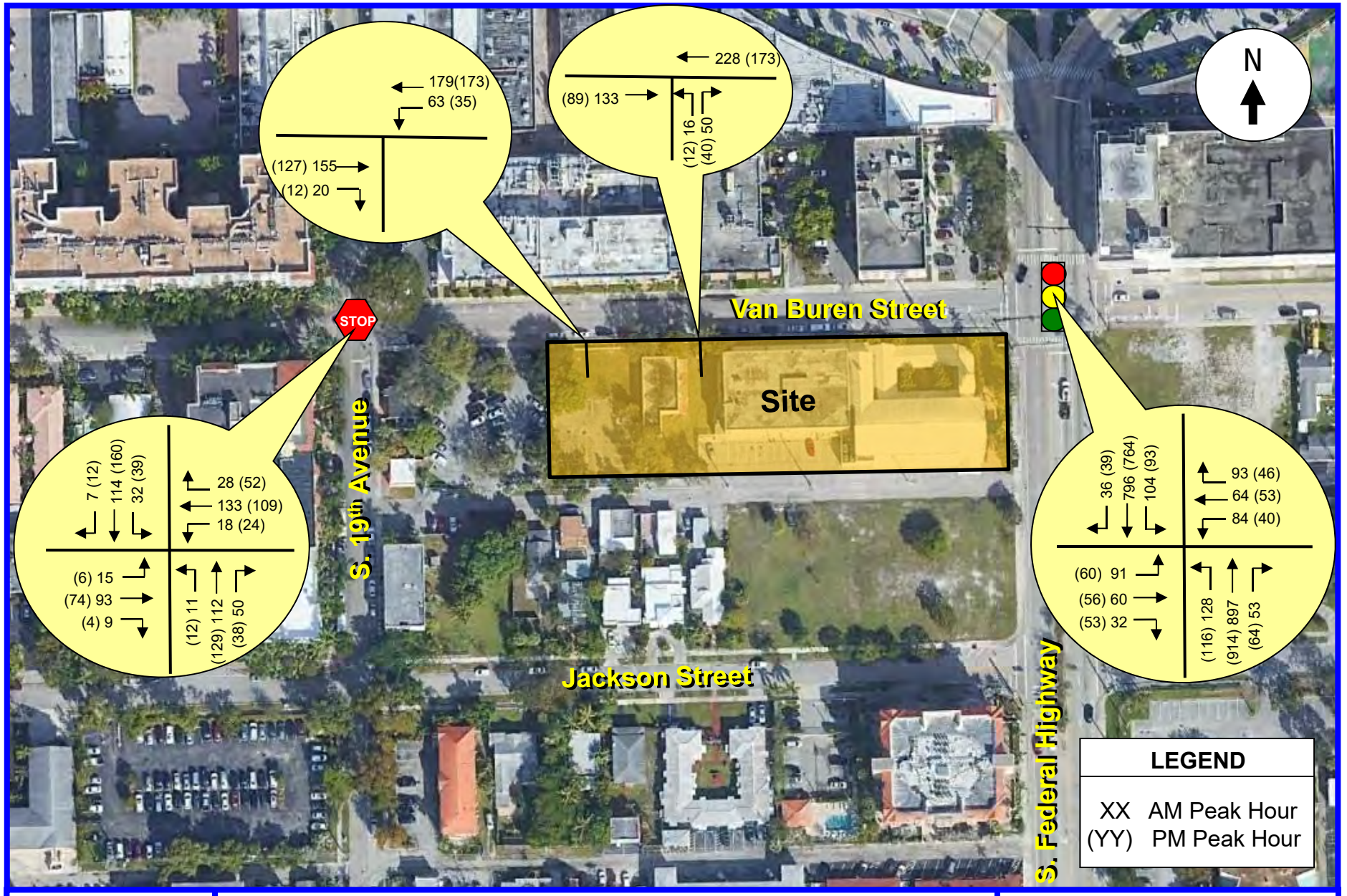
BACKGROUND TRAFFIC

FIGURE 5
Seventh Day Adventist
Church School
Hollywood, Florida



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TOTAL TRAFFIC with PROJECT

FIGURE 6
Seventh Day Adventist
Church School
Hollywood, Florida

Intersection Level of Service

Intersection capacity/level of service analyses were conducted for the two study intersections. Level of service analyses were undertaken following the capacity/level of service of the Highway Capacity Manual using the SYNCHRO software. The results of the intersection analyses are summarized in Table 2.

TABLE 2
Intersection Level of Service
Seventh Day Church School

Intersection/Movements	Existing	Future Traffic Conditions	
		Year 2021 Without Project	Year 2021 With Project
Van Buren Street & S. Federal Highway (Signal)	B (B)	B (B)	B (B)
Van Buren Street & S. 19th Avenue (4-way Stop)	A (A)	A (B)	A (B)
Van Buren Street & Access (Stop-Controlled) *NB*	-	-	A (A)

As indicated in Table 2, all intersections are expected to operate at acceptable level of service in the year 2021 with the project in place.

The access driveway off of Van Buren Street, as proposed, is projected to operate at acceptable level of service with the proposed project in place.

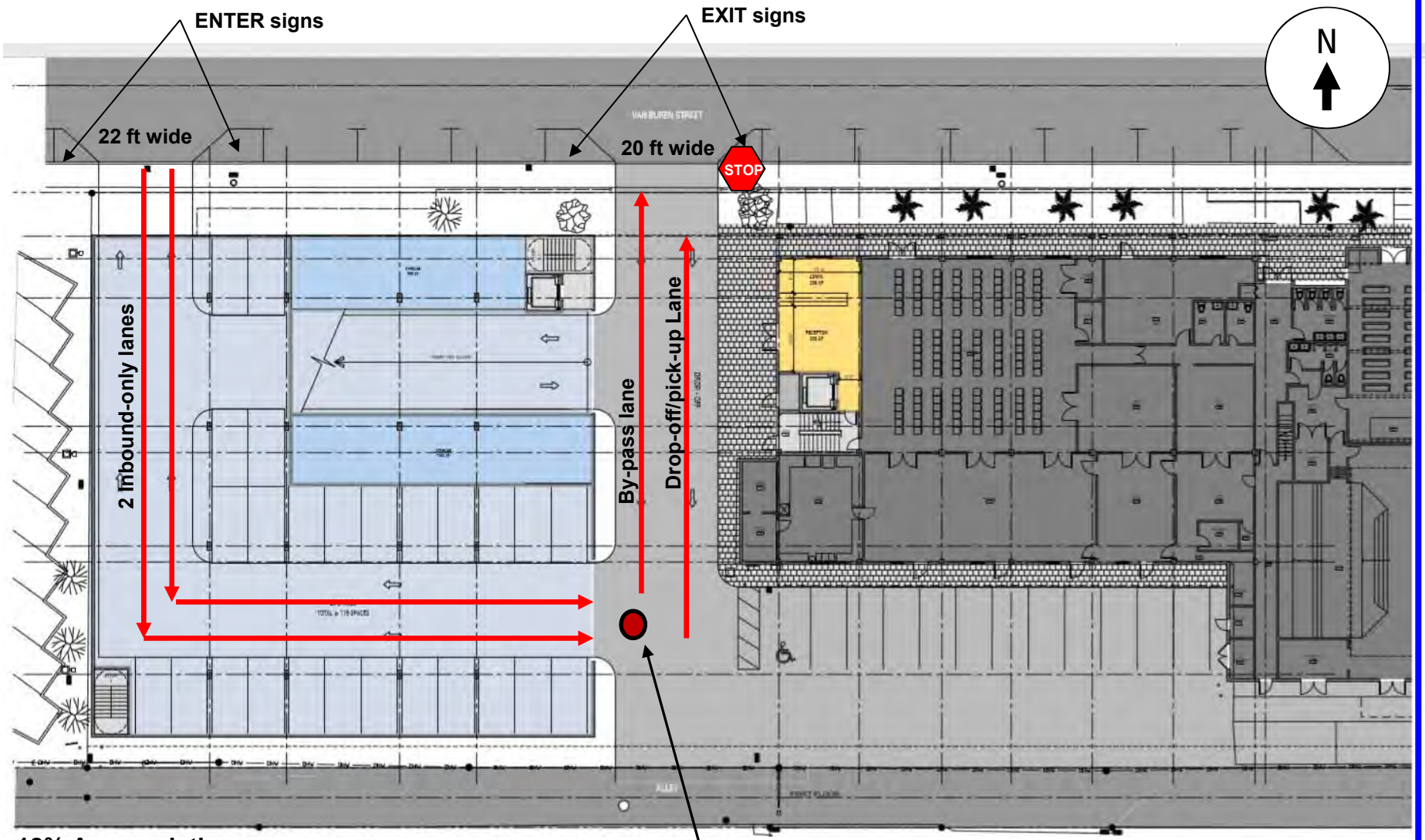
Appendix C contains the peak season conversion factor published by the FDOT and the future traffic projections for the study intersections. The results of the SYCNRHO analyses are presented in Appendix D.

ACCUMULATION ANALYSIS

A vehicle accumulation study was conducted for the proposed Seventh Day Church School. Based on vehicle accumulation studies conducted by Traf Tech Engineering, Inc. on schools in South Florida, the typical vehicle accumulation (vehicles in queue and parked vehicles) of schools range between 11% and 18% of the student population. For purposes of this study, the vehicle accumulation was assumed to be 18% of the student population, or 29 vehicles (160 x 18%). Since the proposed school is designed to accommodate approximately 22[1] vehicles within the stacking lanes plus 38 parking spaces for a total on-site accumulation capacity of approximately 60 vehicles (22 plus 38). The 38 available parking spaces include 26 parking stalls assigned to the school plus 12 surplus parking spaces (131 spaces provided minus 119 required parking spaces). It is important to note that a significant amount of the church's required parking spaces is projected to be available during the school's morning and afternoon peak periods. Therefore, stacking should not be a problem (capacity to accommodate 29 vehicles is required and 60 vehicles can be accommodated on site).

A Traffic Operations Plan (TOP) has been developed for the proposed charter school and is depicted in Figure 7.

[1] Approximately 446 linear feet at 22 feet per vehicle is approximately 22 vehicles.



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ENGINEERING, INC.

School Circulation

FIGURE 7
Seventh Day Adventist
Church School
Hollywood, Florida

CONCLUSIONS AND RECOMMENDATIONS

Seventh Day Adventist Church School is a proposed educational institution planned to be located 1808 Van Buren Street in City of Hollywood in Broward County, Florida.

Traf Tech Engineering, Inc. has been retained by the Seventh Day Adventist Church to conduct a traffic study in connection with this education facility. The subject school will have a capacity of 160 students. This study addresses trip generation and the traffic impacts created by the proposed project on the nearby transportation network.

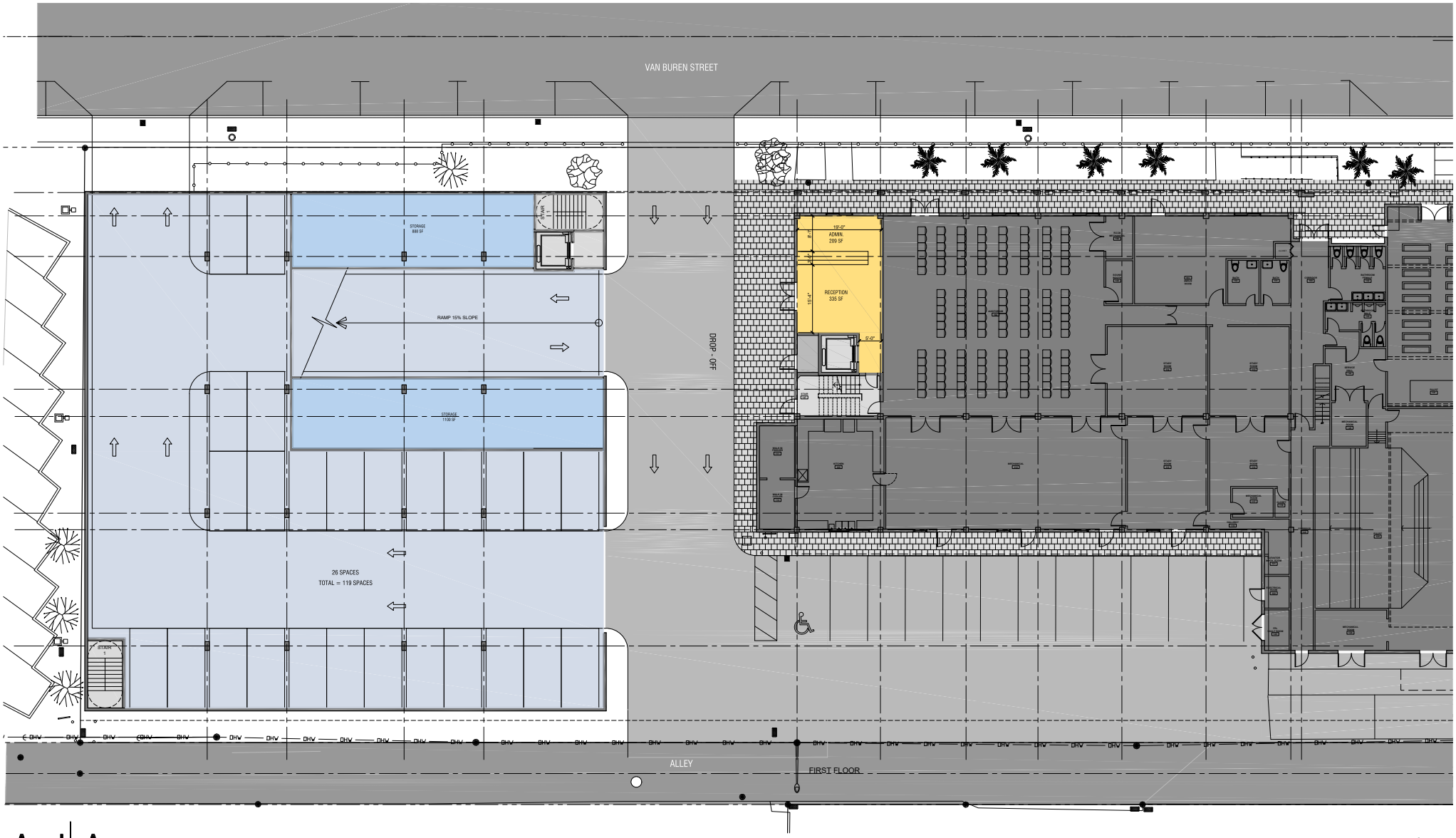
The site is currently vacant. The site will be developed with a new school housing 160 students (Grades 9-12). The proposed school is anticipated to be built and occupied in the Fall of 2021.

Results of the intersection level of service analysis reveal that all intersections are projected to operate at acceptable level of service in the year 2021 with the proposed school project in place.

The access driveway off of Van Buren Street, as proposed, is projected to operate at acceptable level of service with the proposed project in place.

The proposed school is designed to accommodate approximately 12 vehicles within the stacking lanes plus 38 parking spaces for a total on-site accumulation capacity of approximately 60 vehicles. Since the maximum vehicle accumulation anticipated for this school is 29 vehicles, stacking should not be a problem.

APPENDIX A
Site Plan – Seventh Day Adventist Church School



alfonsojurado ARCHITECTURE
1035 N MIAMI AVE, STE. 406
Miami, FL 33136
T 305.206.6214

7th Day Adventist Church School

1808 Van Buren Street, Hollywood, FL

June 14, 2019

Level 1

A1|01

Scale: 1" = 20'

APPENDIX B
Intersection Turning Movement Counts and Signal Timing Data

Traf Tech Engineering Inc.

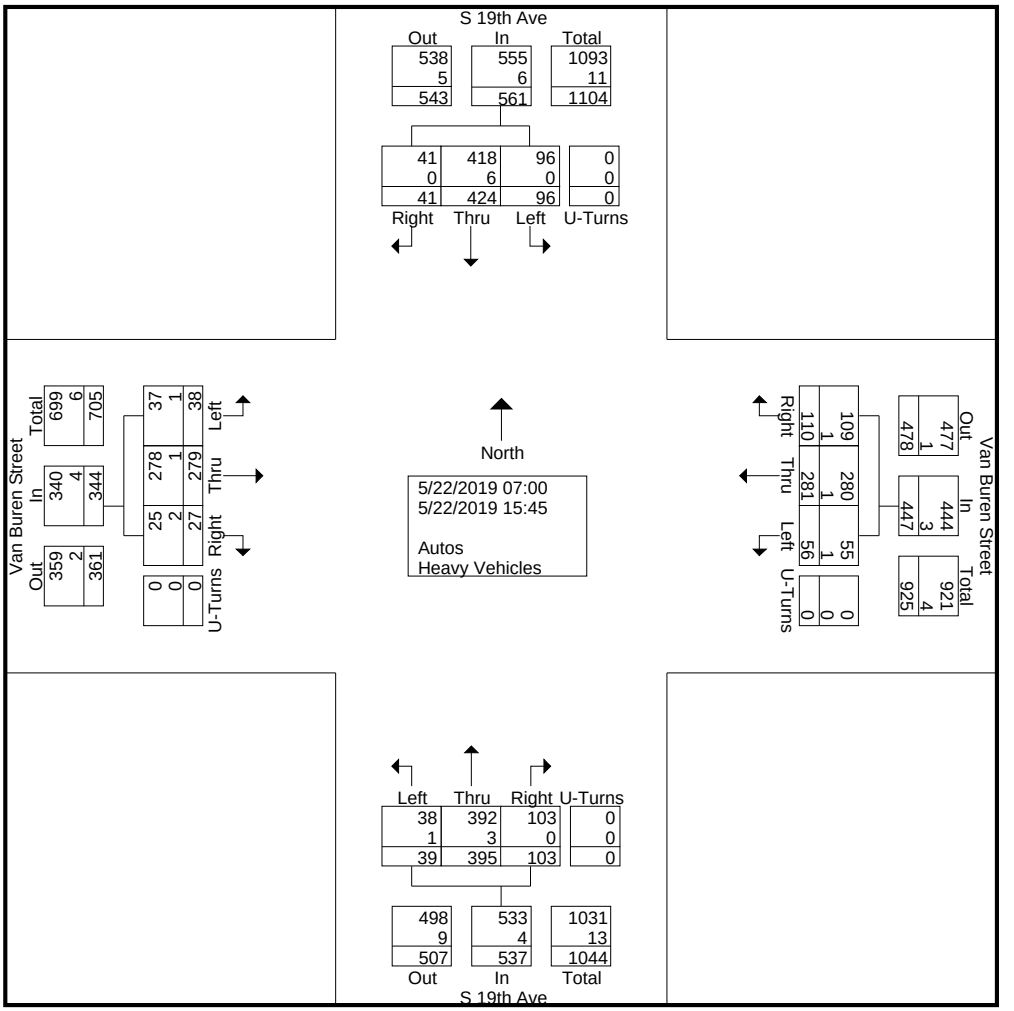
File Name : 1-Van Buren St & S 19th Ave
Site Code : 00000000
Start Date : 5/22/2019
Page No : 1

Groups Printed- Autos - Heavy Vehicles

	S 19th Ave From North					Van Buren Street From East					S 19th Ave From South					Van Buren Street From West					
Start Time	Right	Thru	Left	U-Turns	App. Total	Right	Thru	Left	U-Turns	App. Total	Right	Thru	Left	U-Turns	App. Total	Right	Thru	Left	U-Turns	App. Total	Int. Total
07:00	1	19	3	0	23	0	8	1	0	9	5	17	1	0	23	1	13	2	0	16	71
07:15	1	12	4	0	17	1	8	0	0	9	7	25	4	0	36	1	12	1	0	14	76
07:30	4	24	6	0	34	6	15	3	0	24	7	28	3	0	38	2	12	6	0	20	116
07:45	0	29	6	0	35	5	30	1	0	36	12	28	5	0	45	2	23	3	0	28	144
Total	6	84	19	0	109	12	61	5	0	78	31	98	13	0	142	6	60	12	0	78	407
08:00	0	25	7	0	32	1	22	4	0	27	12	26	1	0	39	2	32	0	0	34	132
08:15	3	28	3	0	34	9	15	3	0	27	8	23	1	0	32	2	16	5	0	23	116
08:30	4	21	4	0	29	3	20	4	0	27	2	22	3	0	27	1	15	0	0	16	99
08:45	6	20	4	0	30	3	18	6	0	27	2	22	2	0	26	1	12	4	0	17	100
Total	13	94	18	0	125	16	75	17	0	108	24	93	7	0	124	6	75	9	0	90	447
*** BREAK ***																					
14:00	3	16	10	0	29	8	21	5	0	34	3	13	0	0	16	2	20	3	0	25	104
14:15	3	19	8	0	30	7	9	3	0	19	7	20	3	0	30	3	15	2	0	20	99
14:30	4	32	11	0	47	14	17	5	0	36	8	38	0	0	46	1	21	1	0	23	152
14:45	4	34	8	0	46	7	23	4	0	34	9	22	3	0	34	2	16	3	0	21	135
Total	14	101	37	0	152	36	70	17	0	123	27	93	6	0	126	8	72	9	0	89	490
15:00	3	41	3	0	47	16	31	6	0	53	6	37	5	0	48	1	20	2	0	23	171
15:15	0	42	10	0	52	7	12	3	0	22	8	23	3	0	34	0	10	0	0	10	118
15:30	2	30	2	0	34	15	18	4	0	37	5	29	2	0	36	3	19	3	0	25	132
15:45	3	32	7	0	42	8	14	4	0	26	2	22	3	0	27	3	23	3	0	29	124
Total	8	145	22	0	175	46	75	17	0	138	21	111	13	0	145	7	72	8	0	87	545
Grand Total	41	424	96	0	561	110	281	56	0	447	103	395	39	0	537	27	279	38	0	344	1889
Apprch %	7.3	75.6	17.1	0		24.6	62.9	12.5	0		19.2	73.6	7.3	0		7.8	81.1	11	0		
Total %	2.2	22.4	5.1	0	29.7	5.8	14.9	3	0	23.7	5.5	20.9	2.1	0	28.4	1.4	14.8	2	0	18.2	
Autos	41	418	96	0	555	109	280	55	0	444	103	392	38	0	533	25	278	37	0	340	1872
% Autos	100	98.6	100	0	98.9	99.1	99.6	98.2	0	99.3	100	99.2	97.4	0	99.3	92.6	99.6	97.4	0	98.8	99.1
Heavy Vehicles																					
% Heavy Vehicles	0	1.4	0	0	1.1	0.9	0.4	1.8	0	0.7	0	0.8	2.6	0	0.7	7.4	0.4	2.6	0	1.2	0.9

Traf Tech Engineering Inc.

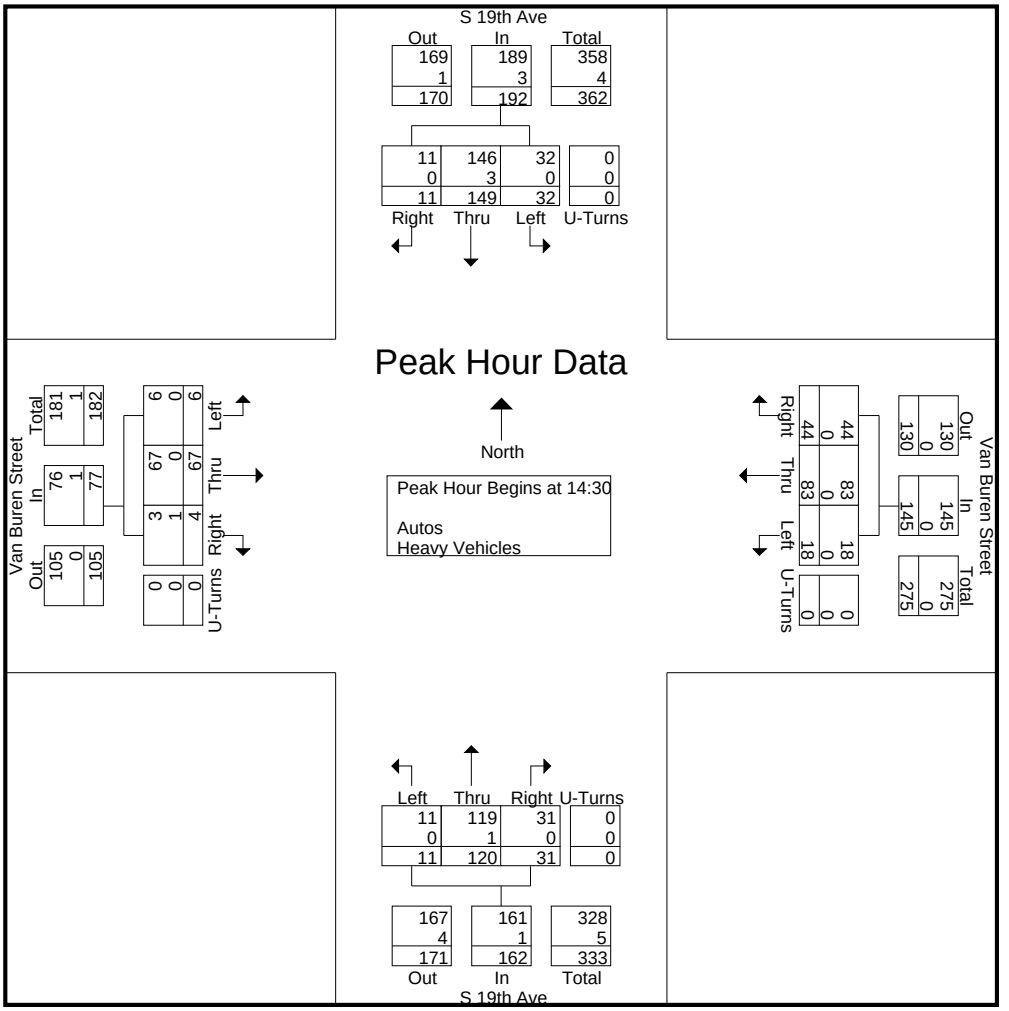
File Name : 1-Van Buren St & S 19th Ave
Site Code : 00000000
Start Date : 5/22/2019
Page No : 2



Traf Tech Engineering Inc.

File Name : 1-Van Buren St & S 19th Ave
Site Code : 00000000
Start Date : 5/22/2019
Page No : 3

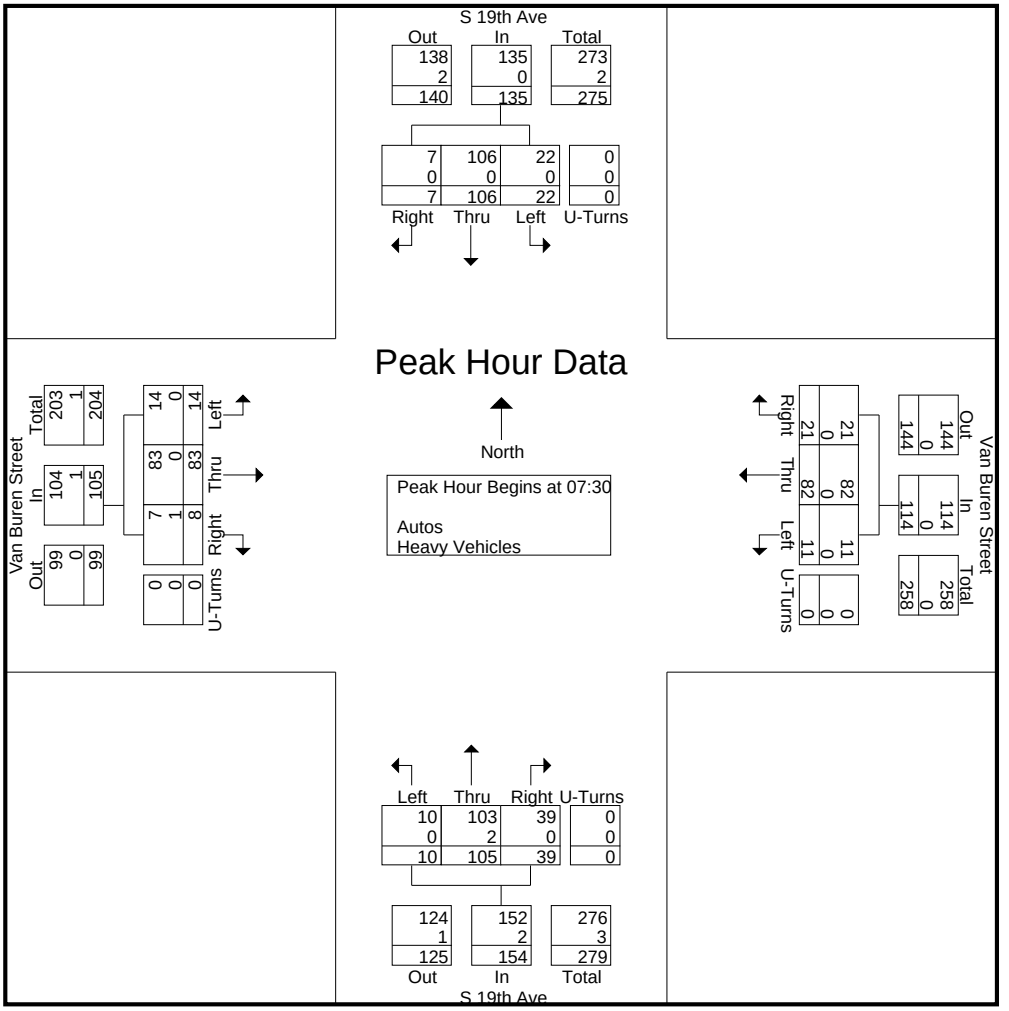
	S 19th Ave From North					Van Buren Street From East					S 19th Ave From South					Van Buren Street From West					
Start Time	Right	Thru	Left	U-Turns	App. Total	Right	Thru	Left	U-Turns	App. Total	Right	Thru	Left	U-Turns	App. Total	Right	Thru	Left	U-Turns	App. Total	Int. Total
Peak Hour Analysis From 07:00 to 15:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 14:30																					
14:30	4	32	11	0	47	14	17	5	0	36	8	38	0	0	46	1	21	1	0	23	152
14:45	4	34	8	0	46	7	23	4	0	34	9	22	3	0	34	2	16	3	0	21	135
15:00	3	41	3	0	47	16	31	6	0	53	6	37	5	0	48	1	20	2	0	23	171
15:15	0	42	10	0	52	7	12	3	0	22	8	23	3	0	34	0	10	0	0	10	118
Total Volume	11	149	32	0	192	44	83	18	0	145	31	120	11	0	162	4	67	6	0	77	576
% App. Total	5.7	77.6	16.7	0		30.3	57.2	12.4	0		19.1	74.1	6.8	0		5.2	87	7.8	0		
PHF	.688	.887	.727	.000	.923	.688	.669	.750	.000	.684	.861	.789	.550	.000	.844	.500	.798	.500	.000	.837	.842
Autos	11	146	32	0	189	44	83	18	0	145	31	119	11	0	161	3	67	6	0	76	571
% Autos	100	98.0	100	0	98.4	100	100	100	0	100	100	99.2	100	0	99.4	75.0	100	100	0	98.7	99.1
Heavy Vehicles																					
% Heavy Vehicles	0	2.0	0	0	1.6	0	0	0	0	0	0	0.8	0	0	0.6	25.0	0	0	0	1.3	0.9



Traf Tech Engineering Inc.

File Name : 1-Van Buren St & S 19th Ave
Site Code : 00000000
Start Date : 5/22/2019
Page No : 4

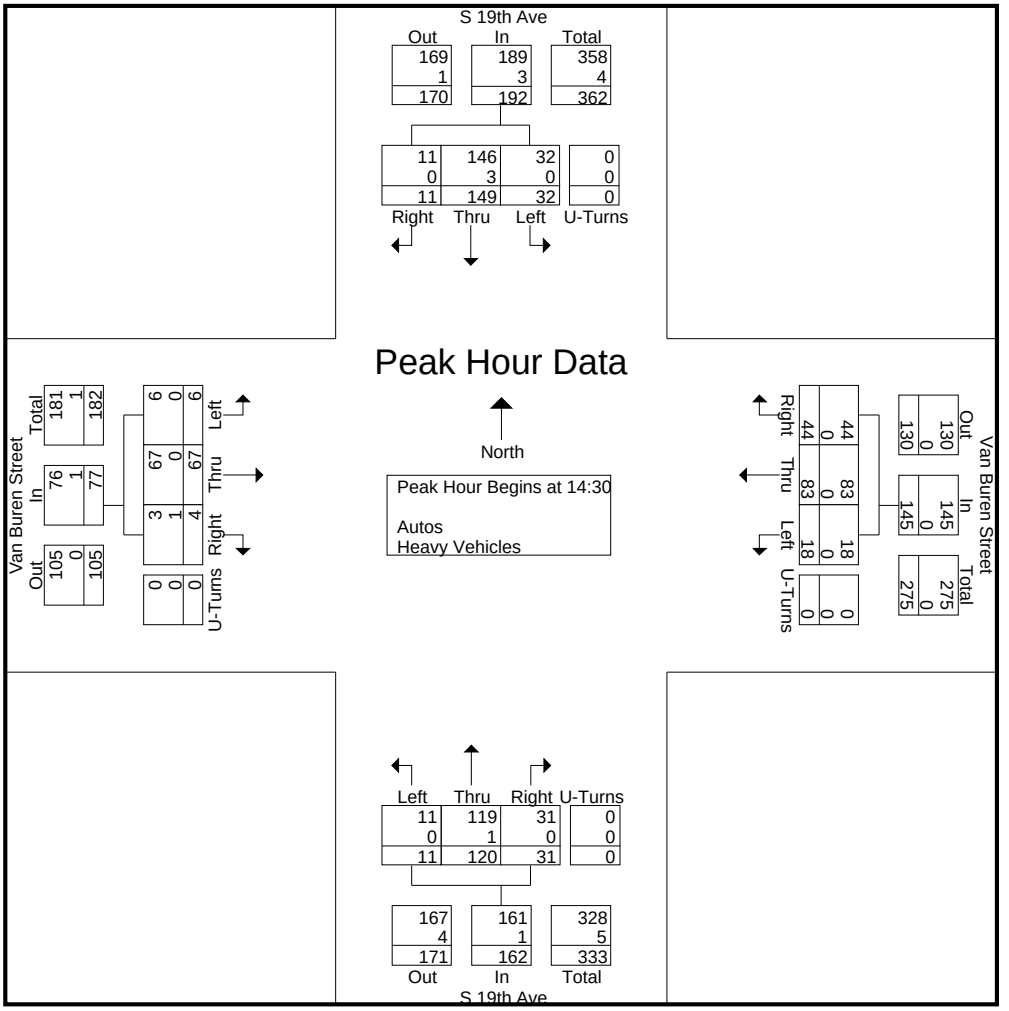
Start Time	S 19th Ave From North					Van Buren Street From East					S 19th Ave From South					Van Buren Street From West					Int. Total
	Right	Thru	Left	U-Turns	App. Total	Right	Thru	Left	U-Turns	App. Total	Right	Thru	Left	U-Turns	App. Total	Right	Thru	Left	U-Turns	App. Total	
Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:30																					
07:30	4	24	6	0	34	6	15	3	0	24	7	28	3	0	38	2	12	6	0	20	116
07:45	0	29	6	0	35	5	30	1	0	36	12	28	5	0	45	2	23	3	0	28	144
08:00	0	25	7	0	32	1	22	4	0	27	12	26	1	0	39	2	32	0	0	34	132
08:15	3	28	3	0	34	9	15	3	0	27	8	23	1	0	32	2	16	5	0	23	116
Total Volume	7	106	22	0	135	21	82	11	0	114	39	105	10	0	154	8	83	14	0	105	508
% App. Total	5.2	78.5	16.3	0		18.4	71.9	9.6	0		25.3	68.2	6.5	0		7.6	79	13.3	0		
PHF	.438	.914	.786	.000	.964	.583	.683	.688	.000	.792	.813	.938	.500	.000	.856	1.00	.648	.583	.000	.772	.882
Autos	7	106	22	0	135	21	82	11	0	114	39	103	10	0	152	7	83	14	0	104	505
% Autos	100	100	100	0	100	100	100	100	0	100	100	98.1	100	0	98.7	87.5	100	100	0	99.0	99.4
Heavy Vehicles																					
% Heavy Vehicles	0	0	0	0	0	0	0	0	0	0	0	1.9	0	0	1.3	12.5	0	0	0	1.0	0.6



Traf Tech Engineering Inc.

File Name : 1-Van Buren St & S 19th Ave
Site Code : 00000000
Start Date : 5/22/2019
Page No : 5

Start Time	S 19th Ave From North					Van Buren Street From East					S 19th Ave From South					Van Buren Street From West					Int. Total
	Right	Thru	Left	U-Turns	App. Total	Right	Thru	Left	U-Turns	App. Total	Right	Thru	Left	U-Turns	App. Total	Right	Thru	Left	U-Turns	App. Total	
Peak Hour Analysis From 14:00 to 15:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 14:30																					
14:30	4	32	11	0	47	14	17	5	0	36	8	38	0	0	46	1	21	1	0	23	152
14:45	4	34	8	0	46	7	23	4	0	34	9	22	3	0	34	2	16	3	0	21	135
15:00	3	41	3	0	47	16	31	6	0	53	6	37	5	0	48	1	20	2	0	23	171
15:15	0	42	10	0	52	7	12	3	0	22	8	23	3	0	34	0	10	0	0	10	118
Total Volume	11	149	32	0	192	44	83	18	0	145	31	120	11	0	162	4	67	6	0	77	576
% App. Total	5.7	77.6	16.7	0		30.3	57.2	12.4	0		19.1	74.1	6.8	0		5.2	87	7.8	0		
PHF	.688	.887	.727	.000	.923	.688	.669	.750	.000	.684	.861	.789	.550	.000	.844	.500	.798	.500	.000	.837	.842
Autos	11	146	32	0	189	44	83	18	0	145	31	119	11	0	161	3	67	6	0	76	571
% Autos	100	98.0	100	0	98.4	100	100	100	0	100	100	99.2	100	0	99.4	75.0	100	100	0	98.7	99.1
Heavy Vehicles																					
% Heavy Vehicles	0	2.0	0	0	1.6	0	0	0	0	0	0	0.8	0	0	0.6	25.0	0	0	0	1.3	0.9



Traf Tech Engineering Inc.

File Name : 1-Van Buren St & S 19th Ave
Site Code : 00000000
Start Date : 5/22/2019
Page No : 1

Groups Printed- Peds & Bikes

	S 19th Ave From North				Van Buren Street From East				S 19th Ave From South				Van Buren Street From West				
Start Time	Bikes			Peds	Bikes			Peds	Bikes			Peds	Bikes			Peds	Int. Total
07:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2
07:15	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	1	3
07:30	0	0	0	2	0	0	0	2	0	0	0	1	0	0	0	2	7
07:45	0	0	0	6	1	0	0	1	0	0	0	2	0	0	0	0	10
Total	0	0	0	8	1	0	0	3	0	0	0	5	0	0	0	5	22
08:00	0	0	0	10	0	0	0	6	0	0	0	1	0	0	0	0	17
08:15	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	1	4
08:30	0	0	0	1	1	0	0	0	0	0	0	3	0	0	0	1	6
08:45	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	4
Total	0	0	0	18	1	0	0	6	0	0	0	4	0	0	0	2	31
*** BREAK ***																	
14:00	0	0	0	1	1	0	0	1	0	0	0	3	1	0	0	1	8
14:15	0	0	0	3	2	0	0	2	0	0	0	1	0	0	0	1	9
14:30	0	0	0	2	0	0	0	0	0	0	0	2	1	0	0	9	14
14:45	0	0	0	2	2	0	0	0	0	0	0	4	0	0	0	1	9
Total	0	0	0	8	5	0	0	3	0	0	0	10	2	0	0	12	40
15:00	0	0	0	1	0	0	0	0	0	0	0	0	1	0	0	7	9
15:15	0	0	0	5	0	0	0	0	0	0	0	1	2	0	0	8	16
15:30	0	0	0	1	0	0	0	2	0	0	0	1	2	0	0	2	8
15:45	0	0	0	2	1	0	0	2	0	0	0	0	0	0	0	10	15
Total	0	0	0	9	1	0	0	4	0	0	0	2	5	0	0	27	48
Grand Total	0	0	0	43	8	0	0	16	0	0	0	21	7	0	0	46	141
Apprch %	0	0	0	100	33.3	0	0	66.7	0	0	0	100	13.2	0	0	86.8	
Total %	0	0	0	30.5	5.7	0	0	11.3	0	0	0	14.9	5	0	0	32.6	

Traf Tech Engineering Inc.

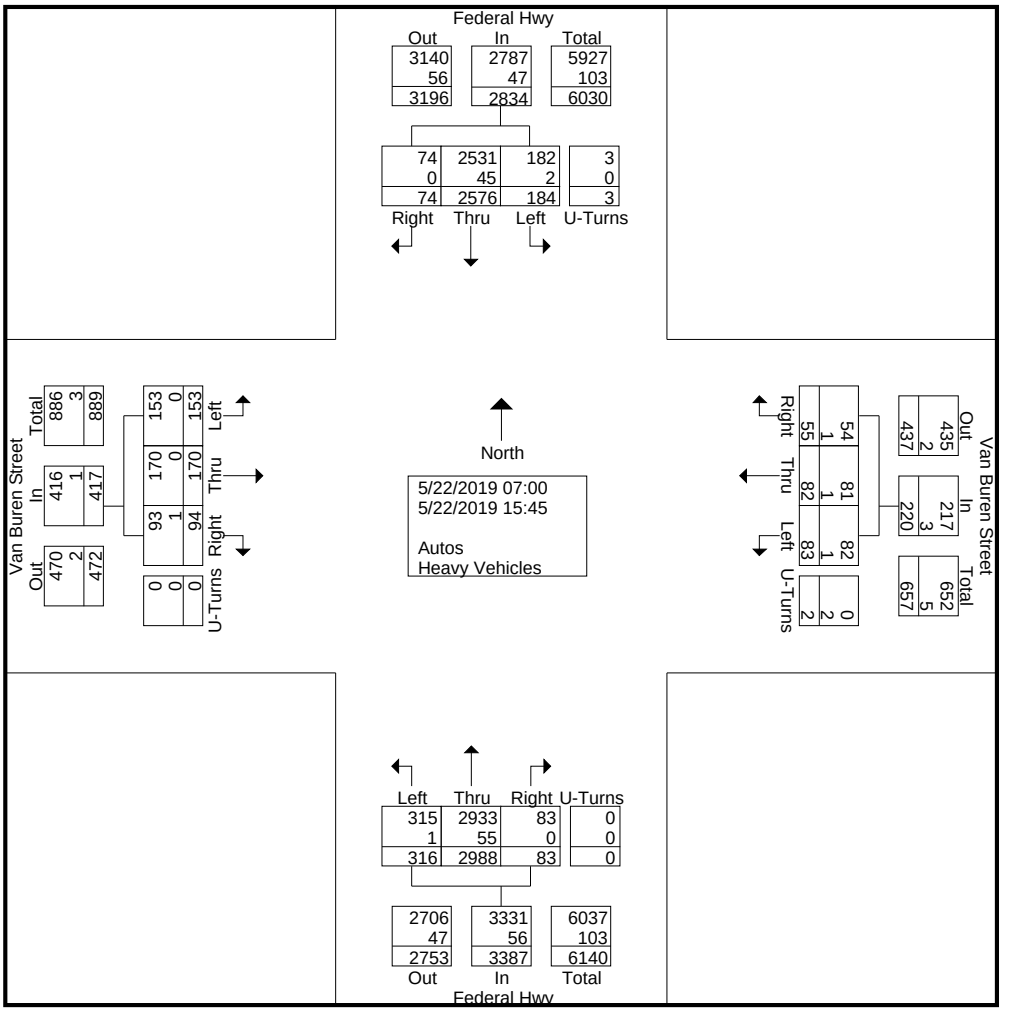
File Name : 2-Van Buren St & Federal Hwy
Site Code : 00000000
Start Date : 5/22/2019
Page No : 1

Groups Printed- Autos - Heavy Vehicles

	Federal Hwy From North					Van Buren Street From East					Federal Hwy From South					Van Buren Street From West					
Start Time	Right	Thru	Left	U-Turns	App. Total	Right	Thru	Left	U-Turns	App. Total	Right	Thru	Left	U-Turns	App. Total	Right	Thru	Left	U-Turns	App. Total	Int. Total
07:00	2	113	8	0	123	2	0	7	2	11	7	128	7	0	142	2	12	7	0	21	297
07:15	3	146	25	0	174	2	2	6	0	10	4	157	7	0	168	3	11	3	0	17	369
07:30	1	160	19	0	180	2	0	4	0	6	7	205	26	0	238	3	5	11	0	19	443
07:45	4	180	18	1	203	3	2	4	0	9	4	225	25	0	254	2	17	18	0	37	503
Total	10	599	70	1	680	9	4	21	2	36	22	715	65	0	802	10	45	39	0	94	1612
08:00	1	186	15	0	202	9	2	7	0	18	10	197	29	0	236	4	15	24	0	43	499
08:15	4	172	8	2	186	4	5	10	0	19	2	178	16	0	196	2	10	13	0	25	426
08:30	6	190	1	0	197	4	13	7	0	24	4	177	17	0	198	3	10	6	0	19	438
08:45	9	147	13	0	169	5	13	8	0	26	1	162	14	0	177	4	6	4	0	14	386
Total	20	695	37	2	754	22	33	32	0	87	17	714	76	0	807	13	41	47	0	101	1749
*** BREAK ***																					
14:00	5	153	15	0	173	2	1	2	0	5	2	206	29	0	237	13	12	5	0	30	445
14:15	9	132	5	0	146	1	0	1	0	2	4	225	11	0	240	7	3	13	0	23	411
14:30	8	150	9	0	167	1	4	2	0	7	9	220	25	0	254	9	15	14	0	38	466
14:45	5	204	13	0	222	0	8	3	0	11	5	176	23	0	204	7	11	10	0	28	465
Total	27	639	42	0	708	4	13	8	0	25	20	827	88	0	935	36	41	42	0	119	1787
15:00	6	137	8	0	151	5	9	2	0	16	9	223	32	0	264	7	10	13	0	30	461
15:15	4	180	11	0	195	5	5	7	0	17	4	185	15	0	204	12	9	4	0	25	441
15:30	3	177	9	0	189	5	8	5	0	18	7	174	26	0	207	7	12	3	0	22	436
15:45	4	149	7	0	160	5	10	8	0	23	4	150	14	0	168	9	12	5	0	26	377
Total	17	643	35	0	695	20	32	22	0	74	24	732	87	0	843	35	43	25	0	103	1715
Grand Total	74	2576	184	3	2837	55	82	83	2	222	83	2988	316	0	3387	94	170	153	0	417	6863
Apprch %	2.6	90.8	6.5	0.1		24.8	36.9	37.4	0.9		2.5	88.2	9.3	0		22.5	40.8	36.7	0		
Total %	1.1	37.5	2.7	0	41.3	0.8	1.2	1.2	0	3.2	1.2	43.5	4.6	0	49.4	1.4	2.5	2.2	0	6.1	
Autos	74	2531										2933									
% Autos	100	98.3	98.9	100	98.3	98.2	98.8	98.8	0	97.7	100	98.2	99.7	0	98.3	98.9	100	100	0	99.8	98.4
Heavy Vehicles																					
% Heavy Vehicles	0	1.7	1.1	0	1.7	1.8	1.2	1.2	100	2.3	0	1.8	0.3	0	1.7	1.1	0	0	0	0.2	1.6

Traf Tech Engineering Inc.

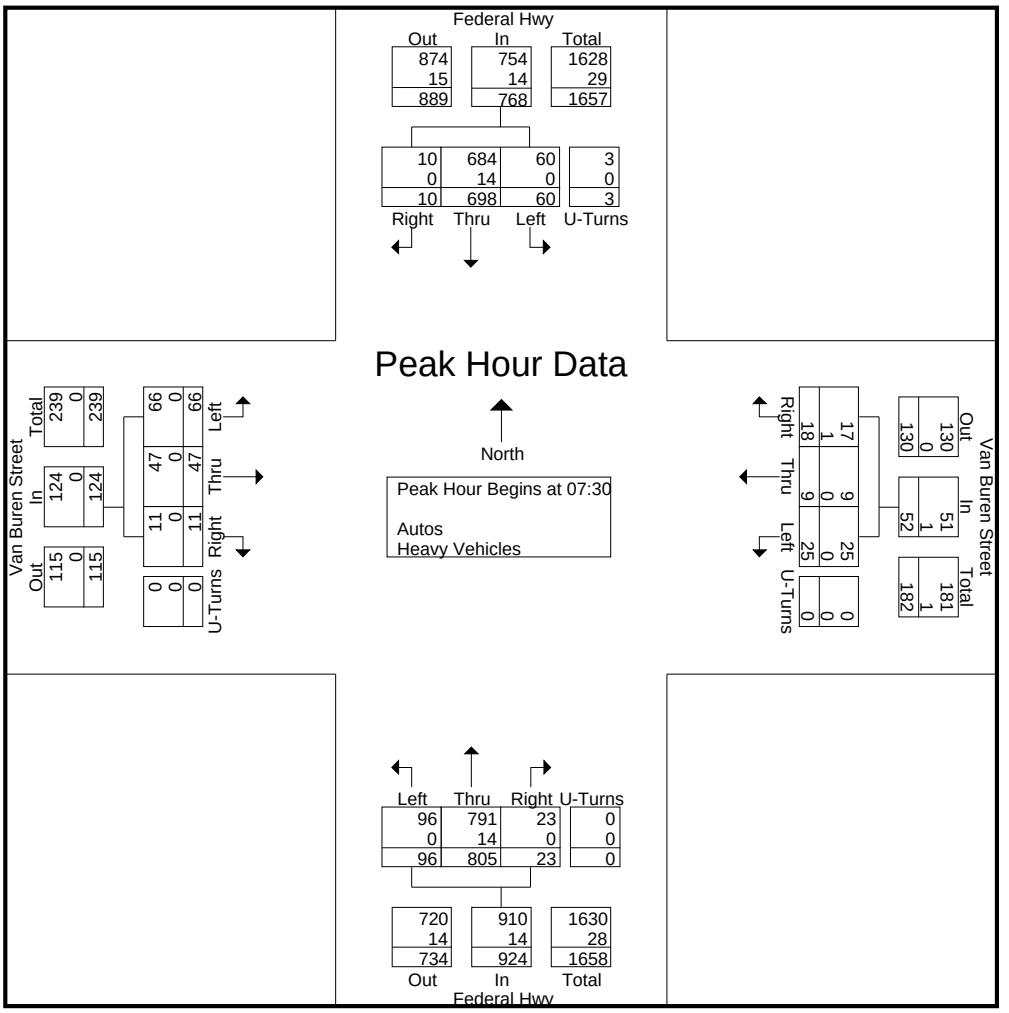
File Name : 2-Van Buren St & Federal Hwy
Site Code : 00000000
Start Date : 5/22/2019
Page No : 2



Traf Tech Engineering Inc.

File Name : 2-Van Buren St & Federal Hwy
Site Code : 00000000
Start Date : 5/22/2019
Page No : 3

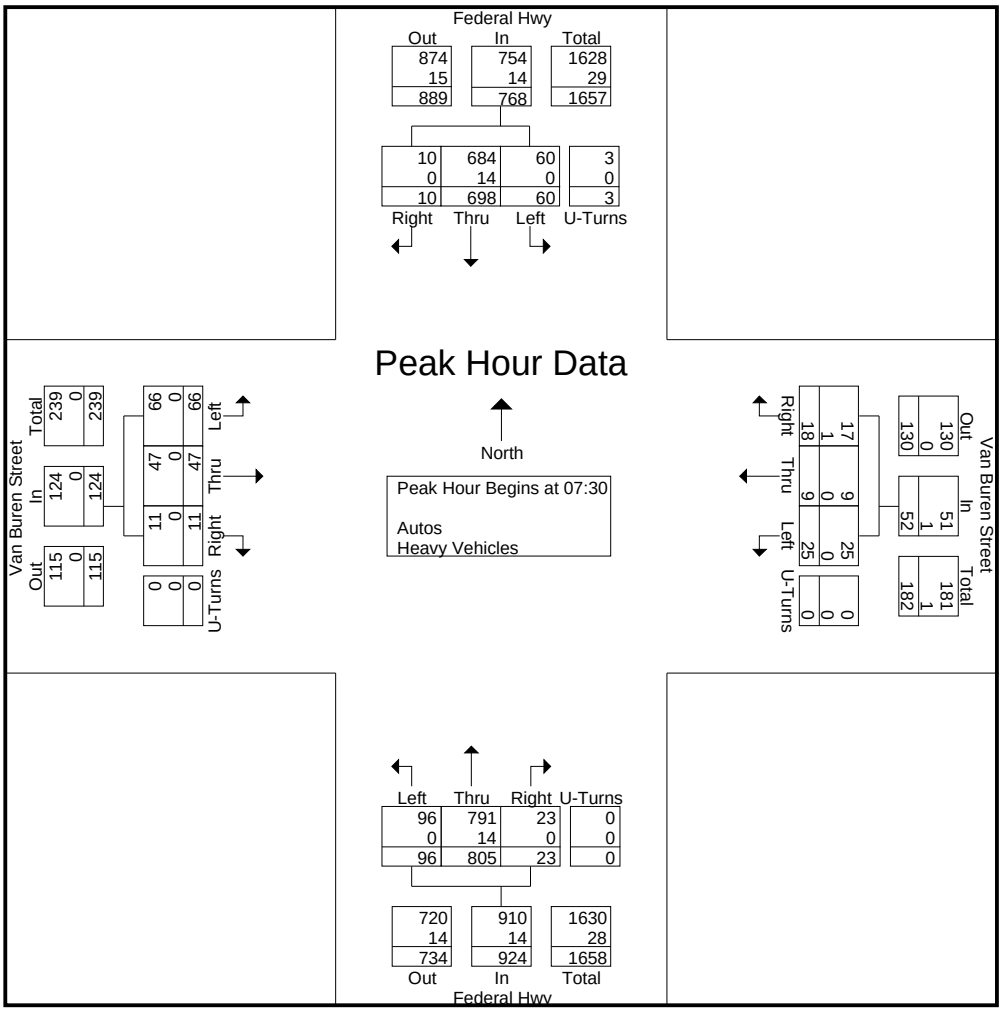
	Federal Hwy From North					Van Buren Street From East					Federal Hwy From South					Van Buren Street From West					
Start Time	Right	Thru	Left	U-Turns	App. Total	Right	Thru	Left	U-Turns	App. Total	Right	Thru	Left	U-Turns	App. Total	Right	Thru	Left	U-Turns	App. Total	Int. Total
Peak Hour Analysis From 07:00 to 15:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:30																					
07:30	1	160	19	0	180	2	0	4	0	6	7	205	26	0	238	3	5	11	0	19	443
07:45	4	180	18	1	203	3	2	4	0	9	4	225	25	0	254	2	17	18	0	37	503
08:00	1	186	15	0	202	9	2	7	0	18	10	197	29	0	236	4	15	24	0	43	499
08:15	4	172	8	2	186	4	5	10	0	19	2	178	16	0	196	2	10	13	0	25	426
Total Volume	10	698	60	3	771	18	9	25	0	52	23	805	96	0	924	11	47	66	0	124	1871
% App. Total	1.3	90.5	7.8	0.4		34.6	17.3	48.1	0		2.5	87.1	10.4	0		8.9	37.9	53.2	0		
PHF	.625	.938	.789	.375	.950	.500	.450	.625	.000	.684	.575	.894	.828	.000	.909	.688	.691	.688	.000	.721	.930
Autos	10	684	60	3	757	17	9	25	0	51	23	791	96	0	910	11	47	66	0	124	1842
% Autos	100	98.0	100	100	98.2	94.4	100	100	0	98.1	100	98.3	100	0	98.5	100	100	100	0	100	98.5
Heavy Vehicles																					
% Heavy Vehicles	0	2.0	0	0	1.8	5.6	0	0	0	1.9	0	1.7	0	0	1.5	0	0	0	0	0	1.5



Traf Tech Engineering Inc.

File Name : 2-Van Buren St & Federal Hwy
Site Code : 00000000
Start Date : 5/22/2019
Page No : 4

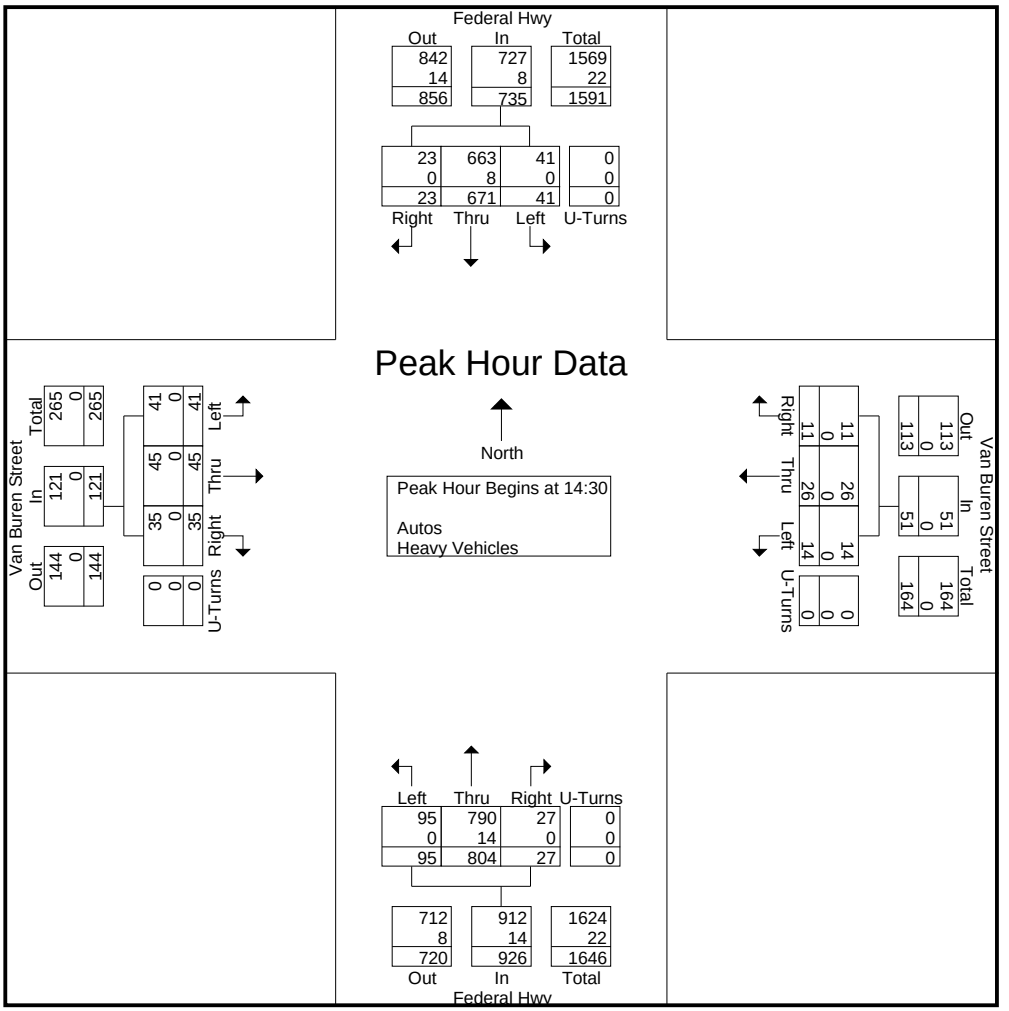
	Federal Hwy From North					Van Buren Street From East					Federal Hwy From South					Van Buren Street From West					
Start Time	Right	Thru	Left	U-Turns	App. Total	Right	Thru	Left	U-Turns	App. Total	Right	Thru	Left	U-Turns	App. Total	Right	Thru	Left	U-Turns	App. Total	Int. Total
Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:30																					
07:30	1	160	19	0	180	2	0	4	0	6	7	205	26	0	238	3	5	11	0	19	443
07:45	4	180	18	1	203	3	2	4	0	9	4	225	25	0	254	2	17	18	0	37	503
08:00	1	186	15	0	202	9	2	7	0	18	10	197	29	0	236	4	15	24	0	43	499
08:15	4	172	8	2	186	4	5	10	0	19	2	178	16	0	196	2	10	13	0	25	426
Total Volume	10	698	60	3	771	18	9	25	0	52	23	805	96	0	924	11	47	66	0	124	1871
% App. Total	1.3	90.5	7.8	0.4		34.6	17.3	48.1	0		2.5	87.1	10.4	0		8.9	37.9	53.2	0		
PHF	.625	.938	.789	.375	.950	.500	.450	.625	.000	.684	.575	.894	.828	.000	.909	.688	.691	.688	.000	.721	.930
Autos	10	684	60	3	757	17	9	25	0	51	23	791	96	0	910	11	47	66	0	124	1842
% Autos	100	98.0	100	100	98.2	94.4	100	100	0	98.1	100	98.3	100	0	98.5	100	100	100	0	100	98.5
Heavy Vehicles																					
% Heavy Vehicles	0	2.0	0	0	1.8	5.6	0	0	0	1.9	0	1.7	0	0	1.5	0	0	0	0	0	1.5



Traf Tech Engineering Inc.

File Name : 2-Van Buren St & Federal Hwy
Site Code : 00000000
Start Date : 5/22/2019
Page No : 5

	Federal Hwy From North					Van Buren Street From East					Federal Hwy From South					Van Buren Street From West					
Start Time	Right	Thru	Left	U-Turns	App. Total	Right	Thru	Left	U-Turns	App. Total	Right	Thru	Left	U-Turns	App. Total	Right	Thru	Left	U-Turns	App. Total	Int. Total
Peak Hour Analysis From 14:00 to 15:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 14:30																					
14:30	8	150	9	0	167	1	4	2	0	7	9	220	25	0	254	9	15	14	0	38	466
14:45	5	204	13	0	222	0	8	3	0	11	5	176	23	0	204	7	11	10	0	28	465
15:00	6	137	8	0	151	5	9	2	0	16	9	223	32	0	264	7	10	13	0	30	461
15:15	4	180	11	0	195	5	5	7	0	17	4	185	15	0	204	12	9	4	0	25	441
Total Volume	23	671	41	0	735	11	26	14	0	51	27	804	95	0	926	35	45	41	0	121	1833
% App. Total	3.1	91.3	5.6	0		21.6	51	27.5	0		2.9	86.8	10.3	0		28.9	37.2	33.9	0		
PHF	.719	.822	.788	.000	.828	.550	.722	.500	.000	.750	.750	.901	.742	.000	.877	.729	.750	.732	.000	.796	.983
Autos	23	663	41	0	727	11	26	14	0	51	27	790	95	0	912	35	45	41	0	121	1811
% Autos	100	98.8	100	0	98.9	100	100	100	0	100	100	98.3	100	0	98.5	100	100	100	0	100	98.8
Heavy Vehicles																					
% Heavy Vehicles	0	1.2	0	0	1.1	0	0	0	0	0	0	1.7	0	0	1.5	0	0	0	0	0	1.2



Traf Tech Engineering Inc.

File Name : 2-Van Buren St & Federal Hwy
Site Code : 00000000
Start Date : 5/22/2019
Page No : 1

Groups Printed- Peds & Bikes

	Federal Hwy From North				Van Buren Street From East				Federal Hwy From South				Van Buren Street From West				
Start Time	Bikes			Peds	Bikes			Peds	Bikes			Peds	Bikes			Peds	Int. Total
07:00	0	0	0	1	2	0	0	4	0	0	0	0	2	0	0	3	12
07:15	0	0	0	3	0	0	0	1	0	0	0	2	0	0	0	1	7
07:30	1	0	0	4	3	0	0	1	0	0	0	1	3	0	0	5	18
07:45	0	0	0	9	1	0	0	8	0	0	0	3	2	0	0	2	25
Total	1	0	0	17	6	0	0	14	0	0	0	6	7	0	0	11	62
08:00	0	0	0	24	0	0	0	5	0	0	0	1	0	0	0	4	34
08:15	0	0	0	2	0	0	0	0	0	0	0	1	0	0	0	1	4
08:30	0	0	0	0	0	0	0	2	0	0	0	0	1	0	0	2	5
08:45	0	0	0	1	0	0	0	1	1	0	0	0	1	0	0	1	5
Total	0	0	0	27	0	0	0	8	1	0	0	2	2	0	0	8	48
*** BREAK ***																	
14:00	0	0	0	1	0	0	0	7	0	0	0	1	0	0	0	2	11
14:15	0	0	1	5	0	0	0	2	0	0	0	0	0	0	0	1	9
14:30	0	0	0	6	0	0	0	0	0	0	0	1	0	0	0	0	7
14:45	0	0	0	8	0	0	0	1	0	0	0	1	0	0	0	1	11
Total	0	0	1	20	0	0	0	10	0	0	0	3	0	0	0	4	38
15:00	0	0	0	2	1	0	0	8	0	0	0	0	0	0	0	0	11
15:15	0	0	0	2	0	0	0	2	0	0	0	2	0	0	0	2	8
15:30	0	0	0	3	1	0	0	2	0	0	0	0	0	0	0	5	11
15:45	0	0	0	0	2	0	0	2	1	0	0	3	1	0	0	5	14
Total	0	0	0	7	4	0	0	14	1	0	0	5	1	0	0	12	44
Grand Total	1	0	1	71	10	0	0	46	2	0	0	16	10	0	0	35	192
Apprch %	1.4	0	1.4	97.3	17.9	0	0	82.1	11.1	0	0	88.9	22.2	0	0	77.8	
Total %	0.5	0	0.5	37	5.2	0	0	24	1	0	0	8.3	5.2	0	0	18.2	

BROWARD COUNTY FLORIDA

BROWARD COUNTY TRAFFIC ENGINEERING
ACTUATED TRAFFIC SIGNAL TIMING SHEET

Intersection Number	3206	**Initial Operation Date**	9/9/77
Controller Type	2070 LN	**System Number**	3206
Modification Number	10	**Modification Date**	09/30/2014
Drawing/Project No	228034-1-52-01	**FPL Grid Number**	87671279106
Intersection	FEDERAL HWY. (US 1/SR 5) and VAN BUREN STREET		
Municipality	HOLLYWOOD		

Controller Phase	1	2	3	4	5	6	7	8
Face Number	1	2		4	5	6		8
Direction	SBL	NB		EB	NBL	SB		WB
Initial Green(MIN)	4	10		6	4	10		6
Vehicle Ext.(GAP)	1.5	3.0		2.0	1.5	3.0		2.0
Maximum Green I	12	50		20	12	50		20
Maximum Green II								
Yellow Clearance	4.0	4.0		4.0	4.0	4.0		4.0
All Red Clearance	2.0	2.0		2.0	2.0	2.0		2.0
Phase Recall	OFF	MIN		OFF	OFF	MIN		OFF
Detector Delay				20RT				20RT
Walk		7		5		7		5
Pedestrian Clearance		11		18		11		18
Permissive	5 SECT				5 SECT			
Flash Operation		YELLOW		RED		YELLOW		RED
Green Return								

Attachment

Channel/Drop / **IP Address**

NOTES:

1. ANTI-BACKDOWN NORTH/SOUTH: PHASES 2+6 ON--->OMIT PHASES 1+5.
2. DUAL ENTRY HARDWIRED EAST/WEST.
3. MOD.10 UPDATES ALL RED CLEARANCE VALUES.

Submitted By _____ **Approved By** _____

Station : 3206 - US 1 & Van Buren St (Standard File)

Phase	1 (SL)	2 (NT)	3	4 (ET)	5 (NL)	6 (ST)	7	8 (WT)	9	10	11	12	13	14	15	16
Walk		7		5		7		5								
Ped Clearance		11		18		11		18								
Min Green	4	10		6	4	10		6								
Gap Ext	1.5	3		2	1.5	3		2								
Max1	12	50		20	12	50		20								
Max2																
Yellow Clr	4	4	4	4	4	4	4	4	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
Red Clr	2	2		2	2	2		2	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
Red Revert																
Added Initial																
Max Initial																
Time Before Reduce																
Cars Before Reduce																
Time To Reduce																
Reduce By																
Min Gap																
Dynamic Max Limit																
Dynamic Max Step																
Enable	ON	ON		ON	ON	ON		ON								
Auto Flash Entry				ON				ON								
Auto Flash Exit		ON				ON										
Non-Actuated 1																
Non-Actuated 2																
Lock Call									ON	ON	ON	ON	ON	ON	ON	ON
Min Recall		ON				ON										
Max Recall																
Ped Recall																
Soft Recall																
Dual Entry				ON				ON								
Sim Gap Enable									ON	ON	ON	ON	ON	ON	ON	ON
Guar Passage																
Rest In Walk		ON				ON										
Cond Service																
Add Init Calc																
Concurrent Ps	1	1	1	1	2	2	2	2								

Preemption

Channel	1	2	3	4	5	6
Lock Input	ON	ON	ON	ON	ON	ON
Override Auto Flash			ON	ON		ON
Override Higher Preempt			ON	ON		ON
Flash in Dwell						
Link to Preempt						
Delay						
Min Duration						
Min Green	6	6	6		6	
Min Walk						
Ped Clear						
Track Green			1		1	
Min Dwell	8	8	8		8	
Max Presence	180	180	180		180	
Track Veh 1					9	
Track Veh 2						
Track Veh 3						
Track Veh 4						
Dwell Cyc Veh 1	2	4	1		2	
Dwell Cyc Veh 2	6	8	6		5	
Dwell Cyc Veh 3						
Dwell Cyc Veh 4						
Dwell Cyc Veh 5						
Dwell Cyc Veh 6						
Dwell Cyc Veh 7						
Dwell Cyc Veh 8						
Dwell Cyc Veh 9						
Dwell Cyc Veh 10						
Dwell Cyc Veh 11						
Dwell Cyc Veh 12						
Dwell Cyc Ped1						
Dwell Cyc Ped2						
Dwell Cyc Ped3						
Dwell Cyc Ped4						
Dwell Cyc Ped5						
Dwell Cyc Ped6						
Dwell vPed7						
Dwell Cyc Ped8						
Exit 1	4	1	2		2	
Exit 2	8	5	6		6	
Exit 3						
Exit 4						

Preempt LP

Channel	1	2	3	4
Min				
Max				
Enable				
Lock Mode	MAX	MAX	MAX	MAX
Coord in Preempt				
No Skip				
Priority P1				
Priority P2				
Priority P3				
Priority P4				
Lock				
Headway				
Group Lock				
Queue Jump				
Free Mode				
Alt Table				

Station : 3206 - US 1 & Van Buren St (Standard File)

Coordination

Hour	Minute	Action	Pattern	Cycle	Offset	Split	Seque	Short	Long	Dwell	Split 1	Split 2	Split 3	Split 4	Split 5	Split 6	Split 7	Split 8	Split 9	Split 10	Split 11	Split 12	Split 13	Split 14	Split 15	Split 16
Day Plan 1											**Easy**															
		100	254																							
6		2	2	100	8	2	1	10	50		15	53		32	15	53		32								
9		3	3	100	8	3	1	10	50		15	53		32	15	53		32								
15		14	14	80	8	14	1	10	50		15	43		22	15	43		22								
20		3	3	100	8	3	1	10	50		15	53		32	15	53		32								
Day Plan 2											**Easy**															
		3	3	100	8	3	1	10	50		15	53		32	15	53		32								
1		100	254																							
6	30	13	13	80	8	13	1		17		15	43		22	15	43		22								
Day Plan 3											**Easy**															
		3	3	100	8	3	1	10	50		15	53		32	15	53		32								
1		100	254																							
6	30	3	3	100	8	3	1	10	50		15	53		32	15	53		32								
23		100	254																							

Station : 3206 - US 1 & Van Buren St (Standard File)

Hour	Minute	Action	Pattern	Cycle	Offset	Split	Seqnc	Short	Long	Dwell	Split 1	Split 2	Split 3	Split 4	Split 5	Split 6	Split 7	Split 8	Split 9	Split 10	Split 11	Split 12	Split 13	Split 14	Split 15	Split 16
Day Plan 4											Easy															

Scheduler

	Month												Day of Week							Day of Month										1										2										3		
Plan	J	F	M	A	M	J	J	A	S	O	N	D	S	M	T	W	T	F	S	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0	1	Day Plan
1	1	1	1	1	1	1	1	1	1	1	1	1		1	1	1	1	1		1	1	1	1	1	1	1	1		1	1	1	1	1	1	1	1	1		1	1	1	1	1	1	1	1		1	1	1
2	1	1	1	1	1	1	1	1	1	1	1	1							1	1	1	1	1	1	1	1	1		1	1	1	1	1	1	1	1	1		1	1	1	1	1	1	1	1		1	1	2
3	1	1	1	1	1	1	1	1	1	1	1	1	1							1	1	1	1	1	1	1	1		1	1	1	1	1	1	1	1	1		1	1	1	1	1	1	1	1		1	1	3
4	1													1	1	1	1	1		1																													2
5	1													1							1																													2
6					1									1																														1	1	1	1	1	1	2
7							1											1				1																												2
8							1							1	1	1	1	1					1																											2
9							1							1										1																											2
10									1					1						1	1	1	1	1	1	1																								2
11											1						1																								1	1	1	1	1	1	1				2
12											1							1																									1	1	1	1	1	1				2
13												1		1				1																											1							2
14												1		1	1	1	1	1																										1						2
15												1		1																															1					2
16												1		1				1																																1	2
17																																																			1
18																																																			1
19																																																			1
20																																																			1
21																																																			1
22																																																			1
23																																																			1
24																																																			1
25																																																			1
26																																																			1
27																																																			1
28																																																			1
29																																																			1
30																																																			1
31																																																			1
32																																																			1

User Comments:

TRAFFIC ENGINEERING DIVISION
SIGNALIZED INTERSECTION

LOCATION FEDERAL HWY/US 1 & VAN BUREN ST

ORDER NO FDOT ISSUE DATE --- REVISION NO. 3 COMPLETION DATE 7/28/04

DWG. NO. 04-10-07-01 FILE NO. C-206 CITY HOLLYWOOD SCALE: 1" = 50'

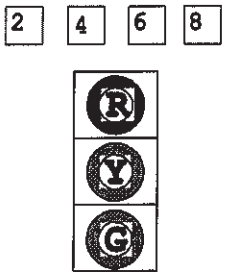
DWN BY: LARRY

NORTH

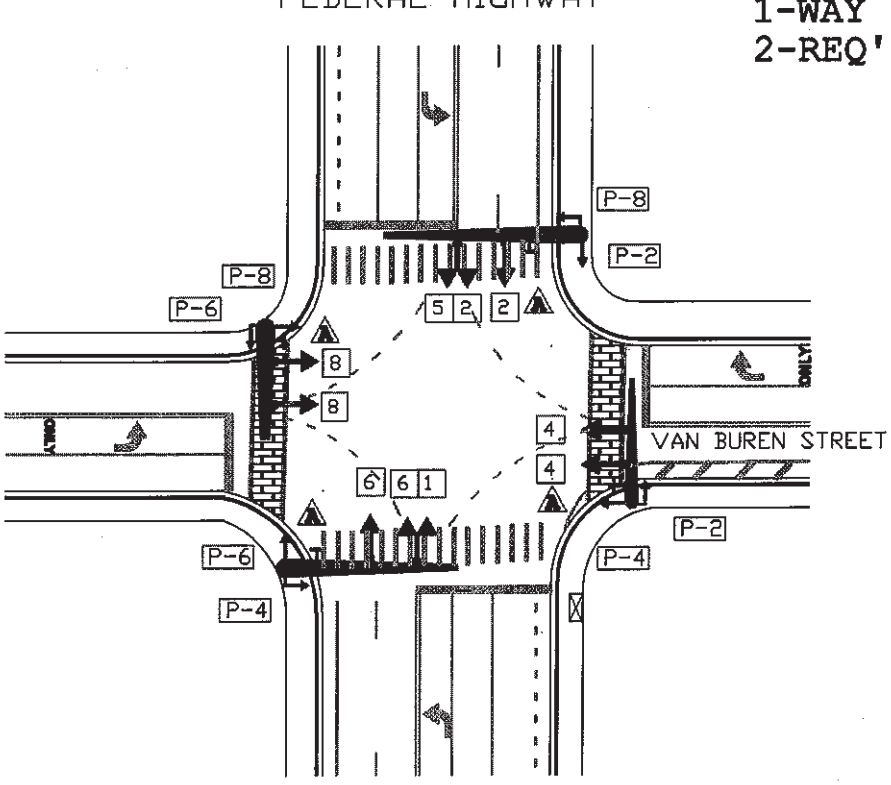
Illuminated Street name

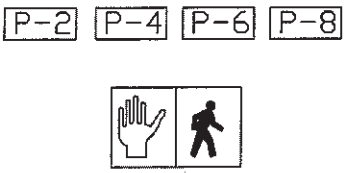
4-REQ'D

5-SECT
1-WAY
2-REQ'D



3-SECT
1-WAY
6-REQ'D





1-SECT
1-WAY
8-REQ'D

1. VIDEO DETECTION
2. SIGNALS REBUILT UNDER FDOT PROJ NO 228034-1-52-01

APPENDIX C

Peak Season Conversion Factors, Historical Traffic Counts, Committed Developments, and Projected Turning Movement Volumes

2018 PEAK SEASON FACTOR CATEGORY REPORT - REPORT TYPE: ALL
CATEGORY: 8601 CEN.-W OF US1 TO SR7

MOCF: 0.98

WEEK	DATES	SF	PSCF
1	01/01/2018 - 01/06/2018	1.00	1.02
2	01/07/2018 - 01/13/2018	1.01	1.03
3	01/14/2018 - 01/20/2018	1.01	1.03
4	01/21/2018 - 01/27/2018	1.00	1.02
* 5	01/28/2018 - 02/03/2018	0.99	1.01
* 6	02/04/2018 - 02/10/2018	0.97	0.99
* 7	02/11/2018 - 02/17/2018	0.96	0.98
* 8	02/18/2018 - 02/24/2018	0.96	0.98
* 9	02/25/2018 - 03/03/2018	0.96	0.98
*10	03/04/2018 - 03/10/2018	0.97	0.99
*11	03/11/2018 - 03/17/2018	0.97	0.99
*12	03/18/2018 - 03/24/2018	0.97	0.99
*13	03/25/2018 - 03/31/2018	0.98	1.00
*14	04/01/2018 - 04/07/2018	0.98	1.00
*15	04/08/2018 - 04/14/2018	0.98	1.00
*16	04/15/2018 - 04/21/2018	0.99	1.01
*17	04/22/2018 - 04/28/2018	1.00	1.02
18	04/29/2018 - 05/05/2018	1.01	1.03
19	05/06/2018 - 05/12/2018	1.02	1.04
20	05/13/2018 - 05/19/2018	1.03	1.05
21	05/20/2018 - 05/26/2018	1.03	1.05
22	05/27/2018 - 06/02/2018	1.03	1.05
23	06/03/2018 - 06/09/2018	1.02	1.04
24	06/10/2018 - 06/16/2018	1.02	1.04
25	06/17/2018 - 06/23/2018	1.02	1.04
26	06/24/2018 - 06/30/2018	1.02	1.04
27	07/01/2018 - 07/07/2018	1.02	1.04
28	07/08/2018 - 07/14/2018	1.03	1.05
29	07/15/2018 - 07/21/2018	1.03	1.05
30	07/22/2018 - 07/28/2018	1.02	1.04
31	07/29/2018 - 08/04/2018	1.02	1.04
32	08/05/2018 - 08/11/2018	1.01	1.03
33	08/12/2018 - 08/18/2018	1.01	1.03
34	08/19/2018 - 08/25/2018	1.01	1.03
35	08/26/2018 - 09/01/2018	1.02	1.04
36	09/02/2018 - 09/08/2018	1.02	1.04
37	09/09/2018 - 09/15/2018	1.03	1.05
38	09/16/2018 - 09/22/2018	1.02	1.04
39	09/23/2018 - 09/29/2018	1.01	1.03
40	09/30/2018 - 10/06/2018	1.01	1.03
41	10/07/2018 - 10/13/2018	1.00	1.02
42	10/14/2018 - 10/20/2018	1.00	1.02
43	10/21/2018 - 10/27/2018	1.00	1.02
44	10/28/2018 - 11/03/2018	1.00	1.02
45	11/04/2018 - 11/10/2018	1.01	1.03
46	11/11/2018 - 11/17/2018	1.01	1.03
47	11/18/2018 - 11/24/2018	1.01	1.03
48	11/25/2018 - 12/01/2018	1.01	1.03
49	12/02/2018 - 12/08/2018	1.00	1.02
50	12/09/2018 - 12/15/2018	1.00	1.02
51	12/16/2018 - 12/22/2018	1.01	1.03
52	12/23/2018 - 12/29/2018	1.01	1.03
53	12/30/2018 - 12/31/2018	1.01	1.03

* PEAK SEASON

FLORIDA DEPARTMENT OF TRANSPORTATION
TRANSPORTATION STATISTICS OFFICE
2018 HISTORICAL AADT REPORT

COUNTY: 86 - BROWARD

SITE: 0176 - SR 5 / US 1 - 0.1 MI N OF PEMBROKE RD,BROWARD CO

YEAR	AADT	DIRECTION 1	DIRECTION 2	*K FACTOR	D FACTOR	T FACTOR
2018	28458 C	N 14647	S 13811	9.00	53.70	2.40
2017	28187 C	N 14465	S 13722	9.00	53.80	2.40
2016	28768 C	N 14693	S 14075	9.00	54.10	2.30
2015	28584 C	N 14649	S 13935	9.00	53.70	2.20
2014	28180 C	N 14309	S 13871	9.00	53.30	2.10
2013	27593 C	N 14209	S 13384	9.00	53.40	2.00
2012	27167 C	N 13986	S 13181	9.00	53.70	2.00
2011	26893 C	N 13852	S 13041	9.00	53.30	2.00
2010	26513 C	N 13628	S 12885	8.28	52.80	2.10
2009	25616 C	N 13177	S 12439	8.48	54.02	2.20
2008	25717 C	N 13221	S 12496	8.72	53.65	2.30
2007	27079 C	N 13993	S 13086	8.58	53.34	2.20
2006	26851 C	N 13884	S 12967	8.50	55.12	2.00
2005	33500 F	N	S	8.20	57.30	2.00
2004	32244 C	N 16442	S 15802	8.20	57.30	2.00
2003	31336 C	N 16022	S 15314	8.20	57.30	2.00

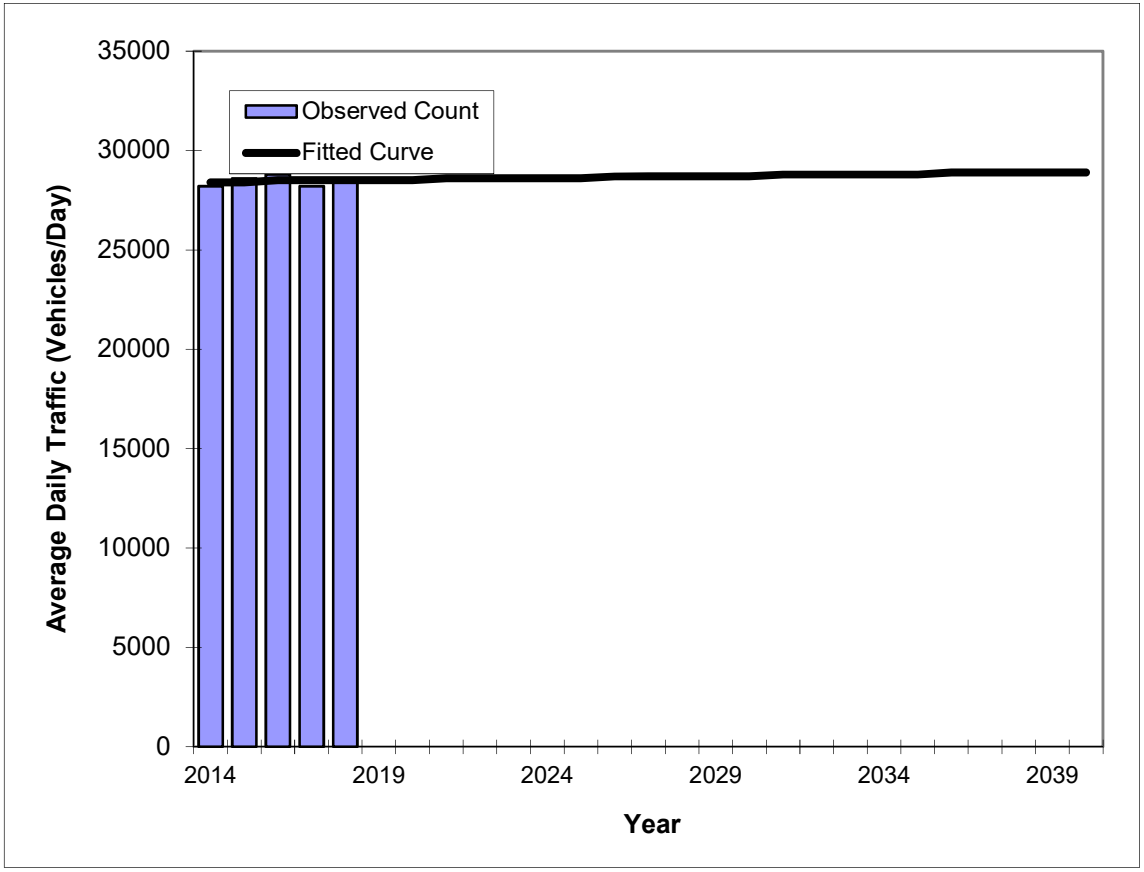
AADT FLAGS: C = COMPUTED; E = MANUAL ESTIMATE; F = FIRST YEAR ESTIMATE
S = SECOND YEAR ESTIMATE; T = THIRD YEAR ESTIMATE; R = FOURTH YEAR ESTIMATE
V = FIFTH YEAR ESTIMATE; 6 = SIXTH YEAR ESTIMATE; X = UNKNOWN
*K FACTOR: STARTING WITH YEAR 2011 IS STANDARDK, PRIOR YEARS ARE K30 VALUES

Traffic Trends - V2.0

SR 5 / US 1 -- 0.1 MI N OF PEMBROKE RD,BROWARD C

PIN#	0
Location	1

County:	Broward
Station #:	0176
Highway:	SR 5 / US 1



Year	Traffic (ADT/AADT) Count*	Trend**
2014	28200	28400
2015	28600	28400
2016	28800	28500
2017	28200	28500
2018	28500	28500
2019 Opening Year Trend		
2019	N/A	28500
2020 Mid-Year Trend		
2020	N/A	28500
2021 Design Year Trend		
2021	N/A	28600
TRANPLAN Forecasts/Trends		

**** Annual Trend Increase:**	20
Trend R-squared:	1.47%
Trend Annual Historic Growth Rate:	0.09%
Trend Growth Rate (2018 to Design Year):	0.12%
Printed:	26-Jun-19

Straight Line Growth Option

***Axle-Adjusted**

FUTURE TURNING MOVEMENT VOLUME ANALYSIS

Federal Highway\US 1 at Van Buren Street
AM Peak Hour

Description	Federal Highway\US 1 Northbound			Federal Highway\US 1 Southbound			Van Buren Street Eastbound			Van Buren Street Westbound		
	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
Existing Traffic (3/23/2017)	107	744	14	44	879	15	38	78	13	18	25	11
Season Adjustment Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
2017 Peak Season Traffic	107	744	14	44	879	15	38	78	13	18	25	11
Annual Growth Rate	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%
Committed Developments:												
Block 55		24			24							
Block 40		11			24							
2022 Background Traffic	110	798	14	45	949	15	39	80	13	18	26	11
Existing Development												
Parc Place:												
Primary Trip (Phase 1)			9							18	12	21
Primary Trip (Phase 2 and 3)			19	40						39	29	53
2022 Total Traffic	**110**	**798**	**42**	**85**	**949**	**15**	**39**	**80**	**13**	**75**	**67**	**85**

Traf Tech
ENGINEERING, INC.

FUTURE TURNING MOVEMENT VOLUME ANALYSIS

Federal Highway\US 1 at Van Buren Street
PM Peak Hour

Description	Federal Highway\US 1 Northbound			Federal Highway\US 1 Southbound			Van Buren Street Eastbound			Van Buren Street Westbound		
	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
Existing Traffic (3/23/2017)	61	993	30	55	760	22	36	66	54	36	68	15
Season Adjustment Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
2017 Peak Season Traffic	61	993	30	55	760	22	36	66	54	36	68	15
Annual Growth Rate	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%
Committed Developments:												
Block 55		24			24							
Block 40		29			21							
2022 Background Traffic	63	1,071	31	56	824	23	37	68	55	37	70	15
Existing Development												
Parc Place:												
Primary Trip (Phase 1)			11							8	5	10
Primary Trip (Phase 2 and 3)			24	49						17	13	24
2022 Total Traffic	**63**	**1,071**	**66**	**105**	**824**	**23**	**37**	**68**	**55**	**62**	**88**	**49**

Traf Tech
ENGINEERING, INC.

FUTURE TURNING MOVEMENT VOLUME ANALYSIS

Van Buren Street and S. 19 Avenue
AM Peak Hour

Description	S. 19 Avenue Northbound			S. 19 Avenue Southbound			Van Burren Street Eastbound			Van Burren Street Westbound		
	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
Existing Traffic (5/22/2019)	10	105	39	22	106	7	14	83	8	11	82	21
Season Adjustment Factor	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05
2019 Peak Season Traffic	11	110	41	23	111	7	15	87	8	12	86	22
Annual Growth Rate	1.00%	1.00%	1.00%	1.00%	1.00%	1.00%	1.00%	1.00%	1.00%	1.00%	1.00%	1.00%
Committed Development												
Block 55												
Block 40												
Parc Place Phase 1											12	
Parc Place Phase 2											29	
2021 Background Traffic	11	112	42	24	114	7	15	89	9	12	129	22
School (160 students)			8	8				4		6	4	6
2021 Total Traffic	**11**	**112**	**50**	**32**	**114**	**7**	**15**	**93**	**9**	**18**	**133**	**28**

FUTURE TURNING MOVEMENT VOLUME ANALYSIS

Van Buren Street and S. 19 Avenue
PM Peak Hour

Description	S. 19 Avenue Northbound			S. 19 Avenue Southbound			Van Burren Street Eastbound			Van Burren Street Westbound		
	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
Existing Traffic (5/22/2019)	11	120	31	32	149	11	6	67	4	18	83	44
Season Adjustment Factor	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05
2019 Peak Season Traffic	12	126	33	34	156	12	6	70	4	19	87	46
Annual Growth Rate	1.00%	1.00%	1.00%	1.00%	1.00%	1.00%	1.00%	1.00%	1.00%	1.00%	1.00%	1.00%
Committed Development												
Block 55												
Block 40												
Parc Place Phase 1											5	
Parc Place Phase 2											13	
2021 Background Traffic	12	129	33	34	160	12	6	72	4	19	107	47
School (160 students)			5	5				2		5	2	5
2021 Total Traffic	**12**	**129**	**38**	**39**	**160**	**12**	**6**	**74**	**4**	**24**	**109**	**52**

FUTURE TURNING MOVEMENT VOLUME ANALYSIS

Van Buren Street and Federal Highway
AM Peak Hour

Description	Federal Highway Northbound			Federal Highway Southbound			Van Burren Street Eastbound			Van Burren Street Westbound		
	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
Existing Traffic (5/22/2019)	96	805	23	60	698	10	66	47	11	25	9	18
Season Adjustment Factor	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05
2019 Peak Season Traffic	101	845	24	63	733	11	69	49	12	26	9	19
Annual Growth Rate	1.00%	1.00%	1.00%	1.00%	1.00%	1.00%	1.00%	1.00%	1.00%	1.00%	1.00%	1.00%
Committed Development												
Block 55		24			24							
Block 40		11			24							
Parc Place Phase 1			9							18	12	21
Parc Place Phase 2			19	40						39	29	53
2021 Background Traffic	103	897	53	104	796	11	71	50	12	84	51	93
School (160 students)	25					25	20	10	20		13	
2021 Total Traffic	**128**	**897**	**53**	**104**	**796**	**36**	**91**	**60**	**32**	**84**	**64**	**93**

FUTURE TURNING MOVEMENT VOLUME ANALYSIS

Van Buren Street and Federal Highway
PM Peak Hour

Description	Federal Highway Northbound			Federal Highway Southbound			Van Burren Street Eastbound			Van Burren Street Westbound		
	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
Existing Traffic (5/22/2019)	95	804	27	41	671	23	41	45	35	14	26	11
Season Adjustment Factor	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05
2019 Peak Season Traffic	100	844	28	43	705	24	43	47	37	15	27	12
Annual Growth Rate	1.00%	1.00%	1.00%	1.00%	1.00%	1.00%	1.00%	1.00%	1.00%	1.00%	1.00%	1.00%
Committed Development												
Block 55		24			24							
Block 40		29			21							
Parc Place Phase 1			11							8	5	10
Parc Place Phase 2			24	49						17	13	24
2021 Background Traffic	102	914	64	93	764	25	44	48	37	40	46	46
School (160 students)	14					14	16	8	16		7	
2021 Total Traffic	**116**	**914**	**64**	**93**	**764**	**39**	**60**	**56**	**53**	**40**	**53**	**46**

APPENDIX D

Intersection Capacity Analyses

HCM 2010 Signalized Intersection Summary
102: S. Federal Hwy & Van Burren St

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	69	49	12	26	9	19	101	845	24	63	733	11
Future Volume (veh/h)	69	49	12	26	9	19	101	845	24	63	733	11
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.95		0.94	0.95		0.93	1.00		0.97	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1900	1863	1863	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	74	53	13	28	10	20	109	909	26	68	788	12
Adj No. of Lanes	1	1	0	0	1	1	1	2	0	1	2	0
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	265	275	67	227	72	283	463	2082	60	401	2084	32
Arrive On Green	0.19	0.19	0.19	0.19	0.19	0.19	0.04	0.59	0.59	0.03	0.58	0.58
Sat Flow, veh/h	1303	1425	350	852	373	1469	1774	3510	100	1774	3566	54
Grp Volume(v), veh/h	74	0	66	38	0	20	109	458	477	68	391	409
Grp Sat Flow(s),veh/h/ln	1303	0	1775	1226	0	1469	1774	1770	1841	1774	1770	1851
Q Serve(g_s), s	5.1	0.0	3.1	1.4	0.0	1.1	2.4	14.2	14.2	1.5	11.8	11.8
Cycle Q Clear(g_c), s	9.6	0.0	3.1	4.5	0.0	1.1	2.4	14.2	14.2	1.5	11.8	11.8
Prop In Lane	1.00		0.20	0.74		1.00	1.00		0.05	1.00		0.03
Lane Grp Cap(c), veh/h	265	0	343	299	0	283	463	1049	1092	401	1034	1082
V/C Ratio(X)	0.28	0.00	0.19	0.13	0.00	0.07	0.24	0.44	0.44	0.17	0.38	0.38
Avail Cap(c_a), veh/h	352	0	461	391	0	382	547	1049	1092	500	1034	1082
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	38.5	0.0	33.8	34.5	0.0	33.0	8.2	11.2	11.2	8.6	11.1	11.1
Incr Delay (d2), s/veh	0.2	0.0	0.1	0.1	0.0	0.0	0.1	1.3	1.3	0.1	1.1	1.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.9	0.0	1.5	0.9	0.0	0.5	1.2	7.3	7.5	0.7	6.1	6.3
LnGrp Delay(d),s/veh	38.7	0.0	33.9	34.6	0.0	33.0	8.3	12.5	12.4	8.7	12.1	12.1
LnGrp LOS	D		C	C		C	A	B	B	A	B	B
Approach Vol, veh/h		140			58			1044			868	
Approach Delay, s/veh		36.4			34.0			12.0			11.8	
Approach LOS		D			C			B			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	9.4	65.3		25.3	10.3	64.4		25.3
Change Period (Y+Rc), s	6.0	6.0		6.0	6.0	6.0		6.0
Max Green Setting (Gmax), s	9.0	47.0		26.0	9.0	47.0		26.0
Max Q Clear Time (g_c+I1), s	3.5	16.2		11.6	4.4	13.8		6.5
Green Ext Time (p_c), s	0.0	6.6		0.3	0.0	5.4		0.1

Intersection Summary	
HCM 2010 Ctrl Delay	14.2
HCM 2010 LOS	B

Timings
102: S. Federal Hwy & Van Burren St

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations									
Traffic Volume (vph)	69	49	26	9	19	101	845	63	733
Future Volume (vph)	69	49	26	9	19	101	845	63	733
Turn Type	Perm	NA	Perm	NA	Perm	pm+pt	NA	pm+pt	NA
Protected Phases		4		8		5	2	1	6
Permitted Phases	4		8		8	2		6	
Detector Phase	4	4	8	8	8	5	2	1	6
Switch Phase									
Minimum Initial (s)	6.0	6.0	6.0	6.0	6.0	4.0	10.0	4.0	10.0
Minimum Split (s)	29.0	29.0	29.0	29.0	29.0	10.0	24.0	10.0	24.0
Total Split (s)	32.0	32.0	32.0	32.0	32.0	15.0	53.0	15.0	53.0
Total Split (%)	32.0%	32.0%	32.0%	32.0%	32.0%	15.0%	53.0%	15.0%	53.0%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0		6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag						Lead	Lag	Lead	Lag
Lead-Lag Optimize?						Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	C-Max	None	C-Max
Act Effct Green (s)	10.3	10.3		10.3	10.3	75.9	72.4	73.5	68.6
Actuated g/C Ratio	0.10	0.10		0.10	0.10	0.76	0.72	0.74	0.69
v/c Ratio	0.56	0.34		0.27	0.08	0.21	0.37	0.15	0.33
Control Delay	57.4	38.3		44.6	0.7	4.2	7.8	4.1	7.9
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	57.4	38.3		44.6	0.7	4.2	7.8	4.1	7.9
LOS	E	D		D	A	A	A	A	A
Approach Delay		48.4		29.4			7.4		7.6
Approach LOS		D		C			A		A

Intersection Summary	
Cycle Length: 100	
Actuated Cycle Length: 100	
Offset: 8 (8%), Referenced to phase 2:NBTL and 6:SBTL, Start of Yellow	
Natural Cycle: 65	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.56	
Intersection Signal Delay: 10.8	Intersection LOS: B
Intersection Capacity Utilization 62.0%	ICU Level of Service B
Analysis Period (min) 15	

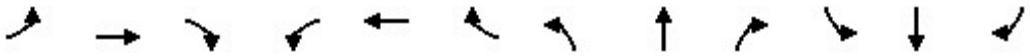
Splits and Phases: 102: S. Federal Hwy & Van Burren St

Queues
102: S. Federal Hwy & Van Burren St

Lane Group	EBL	EBT	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	74	66	38	20	109	935	68	800
v/c Ratio	0.56	0.34	0.27	0.08	0.21	0.37	0.15	0.33
Control Delay	57.4	38.3	44.6	0.7	4.2	7.8	4.1	7.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	57.4	38.3	44.6	0.7	4.2	7.8	4.1	7.9
Queue Length 50th (ft)	46	32	23	0	13	124	8	103
Queue Length 95th (ft)	88	70	52	0	32	197	21	167
Internal Link Dist (ft)		436	589			416		409
Turn Bay Length (ft)	70			60	140		80	
Base Capacity (vph)	337	476	356	458	572	2548	522	2421
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.22	0.14	0.11	0.04	0.19	0.37	0.13	0.33

Intersection Summary

HCM Unsignalized Intersection Capacity Analysis
101: S 19 Ave & Van Burren St



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	15	87	8	12	86	22	11	110	41	23	111	7
Future Volume (vph)	15	87	8	12	86	22	11	110	41	23	111	7
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	17	99	9	14	98	25	13	125	47	26	126	8

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	125	137	185	160
Volume Left (vph)	17	14	13	26
Volume Right (vph)	9	25	47	8
Hadj (s)	0.02	-0.06	-0.10	0.04
Departure Headway (s)	5.0	4.9	4.7	4.8
Degree Utilization, x	0.17	0.19	0.24	0.22
Capacity (veh/h)	667	681	724	694
Control Delay (s)	9.0	9.0	9.1	9.2
Approach Delay (s)	9.0	9.0	9.1	9.2
Approach LOS	A	A	A	A

Intersection Summary				
Delay	9.1			
Level of Service	A			
Intersection Capacity Utilization	31.1%	ICU Level of Service	A	
Analysis Period (min)	15			

HCM 2010 Signalized Intersection Summary
102: S. Federal Hwy & Van Burren St

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	71	50	12	84	51	93	103	897	53	104	796	11
Future Volume (veh/h)	71	50	12	84	51	93	103	897	53	104	796	11
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.97		0.95	0.95		0.93	1.00		0.97	1.00		0.96
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1900	1863	1863	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	76	54	13	90	55	100	111	965	57	112	856	12
Adj No. of Lanes	1	1	0	0	1	1	1	2	0	1	2	0
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	204	309	74	224	124	319	418	1895	112	363	1999	28
Arrive On Green	0.22	0.22	0.22	0.22	0.22	0.22	0.04	0.56	0.56	0.04	0.56	0.56
Sat Flow, veh/h	1186	1433	345	768	575	1479	1774	3388	200	1774	3571	50
Grp Volume(v), veh/h	76	0	67	145	0	100	111	504	518	112	424	444
Grp Sat Flow(s),veh/h/ln	1186	0	1779	1343	0	1479	1774	1770	1819	1774	1770	1852
Q Serve(g_s), s	6.1	0.0	3.1	7.4	0.0	5.7	2.6	17.5	17.5	2.7	13.9	13.9
Cycle Q Clear(g_c), s	16.5	0.0	3.1	10.4	0.0	5.7	2.6	17.5	17.5	2.7	13.9	13.9
Prop In Lane	1.00		0.19	0.62		1.00	1.00		0.11	1.00		0.03
Lane Grp Cap(c), veh/h	204	0	384	348	0	319	418	990	1017	363	990	1036
V/C Ratio(X)	0.37	0.00	0.17	0.42	0.00	0.31	0.27	0.51	0.51	0.31	0.43	0.43
Avail Cap(c_a), veh/h	257	0	462	412	0	384	499	990	1017	443	990	1036
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	42.2	0.0	32.0	35.2	0.0	33.0	9.5	13.6	13.6	10.3	12.8	12.8
Incr Delay (d2), s/veh	0.4	0.0	0.1	0.3	0.0	0.2	0.1	1.9	1.8	0.2	1.4	1.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.0	0.0	1.5	3.6	0.0	2.4	1.3	9.1	9.3	1.3	7.1	7.4
LnGrp Delay(d),s/veh	42.6	0.0	32.0	35.5	0.0	33.2	9.7	15.4	15.4	10.5	14.1	14.0
LnGrp LOS	D		C	D		C	A	B	B	B	B	B
Approach Vol, veh/h		143			245			1133			980	
Approach Delay, s/veh		37.6			34.6			14.9			13.7	
Approach LOS		D			C			B			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	10.5	61.9		27.6	10.5	62.0		27.6
Change Period (Y+Rc), s	6.0	6.0		6.0	6.0	6.0		6.0
Max Green Setting (Gmax), s	9.0	47.0		26.0	9.0	47.0		26.0
Max Q Clear Time (g_c+I1), s	4.7	19.5		18.5	4.6	15.9		12.4
Green Ext Time (p_c), s	0.0	7.3		0.2	0.0	6.0		0.6

Intersection Summary	
HCM 2010 Ctrl Delay	17.6
HCM 2010 LOS	B

Timings
102: S. Federal Hwy & Van Burren St

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations									
Traffic Volume (vph)	71	50	84	51	93	103	897	104	796
Future Volume (vph)	71	50	84	51	93	103	897	104	796
Turn Type	Perm	NA	Perm	NA	Perm	pm+pt	NA	pm+pt	NA
Protected Phases		4		8		5	2	1	6
Permitted Phases	4		8		8	2		6	
Detector Phase	4	4	8	8	8	5	2	1	6
Switch Phase									
Minimum Initial (s)	6.0	6.0	6.0	6.0	6.0	4.0	10.0	4.0	10.0
Minimum Split (s)	29.0	29.0	29.0	29.0	29.0	10.0	24.0	10.0	24.0
Total Split (s)	32.0	32.0	32.0	32.0	32.0	15.0	53.0	15.0	53.0
Total Split (%)	32.0%	32.0%	32.0%	32.0%	32.0%	15.0%	53.0%	15.0%	53.0%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0		6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag						Lead	Lag	Lead	Lag
Lead-Lag Optimize?						Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	C-Max	None	C-Max
Act Effct Green (s)	14.5	14.5		14.5	14.5	67.5	61.5	67.5	61.6
Actuated g/C Ratio	0.14	0.14		0.14	0.14	0.68	0.62	0.68	0.62
v/c Ratio	0.50	0.25		0.70	0.33	0.26	0.47	0.30	0.40
Control Delay	49.1	32.2		57.5	10.2	6.3	12.2	6.9	11.4
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	49.1	32.2		57.5	10.2	6.3	12.2	6.9	11.4
LOS	D	C		E	B	A	B	A	B
Approach Delay		41.2		38.2			11.6		10.9
Approach LOS		D		D			B		B

Intersection Summary	
Cycle Length: 100	
Actuated Cycle Length: 100	
Offset: 8 (8%), Referenced to phase 2:NBTL and 6:SBTL, Start of Yellow	
Natural Cycle: 65	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.70	
Intersection Signal Delay: 15.6	Intersection LOS: B
Intersection Capacity Utilization 65.5%	ICU Level of Service C
Analysis Period (min) 15	

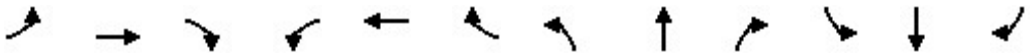
Splits and Phases: 102: S. Federal Hwy & Van Burren St

Queues
102: S. Federal Hwy & Van Burren St

Lane Group	EBL	EBT	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	76	67	145	100	111	1022	112	868
v/c Ratio	0.50	0.25	0.70	0.33	0.26	0.47	0.30	0.40
Control Delay	49.1	32.2	57.5	10.2	6.3	12.2	6.9	11.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	49.1	32.2	57.5	10.2	6.3	12.2	6.9	11.4
Queue Length 50th (ft)	45	31	89	0	17	168	17	135
Queue Length 95th (ft)	86	66	145	42	41	273	41	221
Internal Link Dist (ft)		436	589			416		409
Turn Bay Length (ft)	70			60	140		80	
Base Capacity (vph)	274	477	371	459	488	2156	425	2173
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.28	0.14	0.39	0.22	0.23	0.47	0.26	0.40

Intersection Summary

HCM Unsignalized Intersection Capacity Analysis
101: S 19 Ave & Van Burren St



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	15	89	9	12	129	22	11	112	42	24	114	7
Future Volume (vph)	15	89	9	12	129	22	11	112	42	24	114	7
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	17	101	10	14	147	25	13	127	48	27	130	8

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	128	186	188	165
Volume Left (vph)	17	14	13	27
Volume Right (vph)	10	25	48	8
Hadj (s)	0.01	-0.03	-0.11	0.04
Departure Headway (s)	5.1	4.9	4.8	5.0
Degree Utilization, x	0.18	0.26	0.25	0.23
Capacity (veh/h)	646	674	692	664
Control Delay (s)	9.2	9.6	9.5	9.5
Approach Delay (s)	9.2	9.6	9.5	9.5
Approach LOS	A	A	A	A

Intersection Summary				
Delay	9.5			
Level of Service	A			
Intersection Capacity Utilization	32.7%	ICU Level of Service	A	
Analysis Period (min)	15			

HCM 2010 Signalized Intersection Summary
102: S. Federal Hwy & Van Buren St

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	91	60	32	84	64	93	128	897	53	104	796	36
Future Volume (veh/h)	91	60	32	84	64	93	128	897	53	104	796	36
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.97		0.95	0.96		0.94	1.00		0.96	1.00		0.96
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1900	1863	1863	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	98	65	34	90	69	100	138	965	57	112	856	39
Adj No. of Lanes	1	1	0	0	1	1	1	2	0	1	2	0
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	194	259	136	206	143	341	405	1844	109	353	1847	84
Arrive On Green	0.23	0.23	0.23	0.23	0.23	0.23	0.05	0.54	0.54	0.05	0.54	0.54
Sat Flow, veh/h	1176	1130	591	653	625	1484	1774	3388	200	1774	3441	157
Grp Volume(v), veh/h	98	0	99	159	0	100	138	504	518	112	440	455
Grp Sat Flow(s),veh/h/ln	1176	0	1721	1277	0	1484	1774	1770	1819	1774	1770	1828
Q Serve(g_s), s	8.1	0.0	4.7	7.9	0.0	5.6	3.5	18.1	18.2	2.8	15.3	15.3
Cycle Q Clear(g_c), s	20.7	0.0	4.7	12.6	0.0	5.6	3.5	18.1	18.2	2.8	15.3	15.3
Prop In Lane	1.00		0.34	0.57		1.00	1.00		0.11	1.00		0.09
Lane Grp Cap(c), veh/h	194	0	395	350	0	341	405	963	990	353	950	981
V/C Ratio(X)	0.50	0.00	0.25	0.45	0.00	0.29	0.34	0.52	0.52	0.32	0.46	0.46
Avail Cap(c_a), veh/h	230	0	447	394	0	386	469	963	990	431	950	981
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	43.8	0.0	31.5	35.2	0.0	31.8	10.6	14.5	14.5	11.2	14.3	14.3
Incr Delay (d2), s/veh	0.8	0.0	0.1	0.3	0.0	0.2	0.2	2.0	2.0	0.2	1.6	1.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.7	0.0	2.2	4.0	0.0	2.3	1.7	9.4	9.6	1.4	7.9	8.1
LnGrp Delay(d),s/veh	44.5	0.0	31.6	35.6	0.0	32.0	10.8	16.6	16.5	11.4	15.9	15.9
LnGrp LOS	D		C	D		C	B	B	B	B	B	B
Approach Vol, veh/h		197			259			1160			1007	
Approach Delay, s/veh		38.0			34.2			15.8			15.4	
Approach LOS		D			C			B			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	10.6	60.4		29.0	11.4	59.7		29.0
Change Period (Y+Rc), s	6.0	6.0		6.0	6.0	6.0		6.0
Max Green Setting (Gmax), s	9.0	47.0		26.0	9.0	47.0		26.0
Max Q Clear Time (g_c+I1), s	4.8	20.2		22.7	5.5	17.3		14.6
Green Ext Time (p_c), s	0.0	7.3		0.2	0.0	6.2		0.6

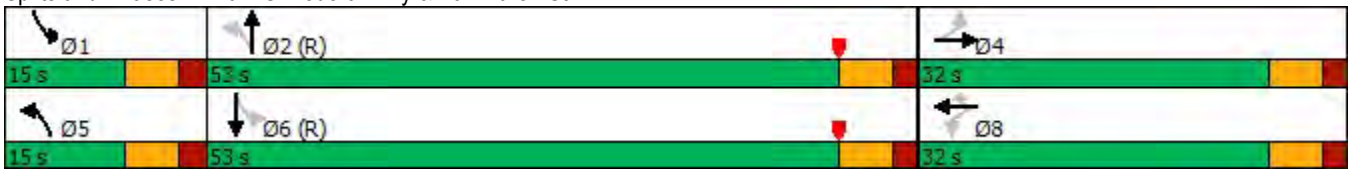
Intersection Summary	
HCM 2010 Ctrl Delay	19.1
HCM 2010 LOS	B

Timings
102: S. Federal Hwy & Van Buren St

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations									
Traffic Volume (vph)	91	60	84	64	93	128	897	104	796
Future Volume (vph)	91	60	84	64	93	128	897	104	796
Turn Type	Perm	NA	Perm	NA	Perm	pm+pt	NA	pm+pt	NA
Protected Phases		4		8		5	2	1	6
Permitted Phases	4		8		8	2		6	
Detector Phase	4	4	8	8	8	5	2	1	6
Switch Phase									
Minimum Initial (s)	6.0	6.0	6.0	6.0	6.0	4.0	10.0	4.0	10.0
Minimum Split (s)	29.0	29.0	29.0	29.0	29.0	10.0	24.0	10.0	24.0
Total Split (s)	32.0	32.0	32.0	32.0	32.0	15.0	53.0	15.0	53.0
Total Split (%)	32.0%	32.0%	32.0%	32.0%	32.0%	15.0%	53.0%	15.0%	53.0%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0		6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag						Lead	Lag	Lead	Lag
Lead-Lag Optimize?						Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	C-Max	None	C-Max
Act Effct Green (s)	15.5	15.5		15.5	15.5	67.0	60.5	66.0	60.0
Actuated g/C Ratio	0.16	0.16		0.16	0.16	0.67	0.60	0.66	0.60
v/c Ratio	0.63	0.34		0.72	0.32	0.33	0.48	0.31	0.42
Control Delay	56.2	29.7		57.5	9.7	7.3	12.9	7.5	12.5
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	56.2	29.7		57.5	9.7	7.3	12.9	7.5	12.5
LOS	E	C		E	A	A	B	A	B
Approach Delay		42.9		39.1			12.2		11.9
Approach LOS		D		D			B		B

Intersection Summary	
Cycle Length: 100	
Actuated Cycle Length: 100	
Offset: 8 (8%), Referenced to phase 2:NBTL and 6:SBTL, Start of Yellow	
Natural Cycle: 65	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.72	
Intersection Signal Delay: 17.0	Intersection LOS: B
Intersection Capacity Utilization 65.8%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 102: S. Federal Hwy & Van Buren St

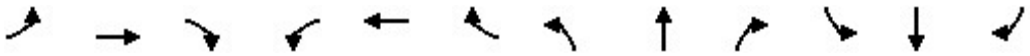


Queues
102: S. Federal Hwy & Van Buren St

Lane Group	EBL	EBT	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	98	99	159	100	138	1022	112	895
v/c Ratio	0.63	0.34	0.72	0.32	0.33	0.48	0.31	0.42
Control Delay	56.2	29.7	57.5	9.7	7.3	12.9	7.5	12.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	56.2	29.7	57.5	9.7	7.3	12.9	7.5	12.5
Queue Length 50th (ft)	59	42	98	0	22	174	18	147
Queue Length 95th (ft)	106	83	155	42	52	281	43	242
Internal Link Dist (ft)		436	589			416		409
Turn Bay Length (ft)	70			60	140		80	
Base Capacity (vph)	262	474	371	459	464	2120	417	2107
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.37	0.21	0.43	0.22	0.30	0.48	0.27	0.42

Intersection Summary

HCM Unsignalized Intersection Capacity Analysis
101: S 19 Ave & Van Buren St



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	15	93	9	18	133	28	11	112	50	32	114	7
Future Volume (vph)	15	93	9	18	133	28	11	112	50	32	114	7
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	17	106	10	20	151	32	13	127	57	36	130	8

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	133	203	197	174
Volume Left (vph)	17	20	13	36
Volume Right (vph)	10	32	57	8
Hadj (s)	0.01	-0.04	-0.13	0.05
Departure Headway (s)	5.2	5.0	4.9	5.1
Degree Utilization, x	0.19	0.28	0.27	0.25
Capacity (veh/h)	632	663	680	649
Control Delay (s)	9.4	10.0	9.7	9.8
Approach Delay (s)	9.4	10.0	9.7	9.8
Approach LOS	A	A	A	A

Intersection Summary				
Delay	9.7			
Level of Service	A			
Intersection Capacity Utilization	36.8%	ICU Level of Service	A	
Analysis Period (min)	15			

HCM Unsignalized Intersection Capacity Analysis
202: Exit Driveway & Van Buren St

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	133	0	0	228	16	50
Future Volume (Veh/h)	133	0	0	228	16	50
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	145	0	0	248	17	54
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)				516		
pX, platoon unblocked					1.00	
vC, conflicting volume			145		393	145
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			145		390	145
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		97	94
cM capacity (veh/h)			1437		612	902

Direction, Lane #	EB 1	WB 1	NB 1	NB 2
Volume Total	145	248	17	54
Volume Left	0	0	17	0
Volume Right	0	0	0	54
cSH	1700	1700	612	902
Volume to Capacity	0.09	0.15	0.03	0.06
Queue Length 95th (ft)	0	0	2	5
Control Delay (s)	0.0	0.0	11.0	9.2
Lane LOS			B	A
Approach Delay (s)	0.0	0.0	9.7	
Approach LOS			A	

Intersection Summary			
Average Delay	1.5		
Intersection Capacity Utilization	22.0%	ICU Level of Service	A
Analysis Period (min)	15		

HCM 2010 Signalized Intersection Summary
102: S. Federal Hwy & Van Burren St

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	43	47	37	15	27	12	100	844	28	43	705	24
Future Volume (veh/h)	43	47	37	15	27	12	100	844	28	43	705	24
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.97		0.96	0.97		0.96	1.00		0.99	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1900	1863	1863	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	44	48	38	15	28	12	102	861	29	44	719	24
Adj No. of Lanes	1	1	0	0	1	1	1	2	0	1	2	0
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	212	143	113	108	177	231	521	2238	75	447	2204	74
Arrive On Green	0.15	0.15	0.15	0.15	0.15	0.15	0.04	0.64	0.64	0.03	0.63	0.63
Sat Flow, veh/h	1323	948	750	392	1173	1527	1774	3493	118	1774	3494	117
Grp Volume(v), veh/h	44	0	86	43	0	12	102	436	454	44	364	379
Grp Sat Flow(s),veh/h/ln	1323	0	1698	1564	0	1527	1774	1770	1841	1774	1770	1841
Q Serve(g_s), s	3.1	0.0	4.5	0.0	0.0	0.7	2.0	11.8	11.8	0.9	9.6	9.6
Cycle Q Clear(g_c), s	7.6	0.0	4.5	4.6	0.0	0.7	2.0	11.8	11.8	0.9	9.6	9.6
Prop In Lane	1.00		0.44	0.35		1.00	1.00		0.06	1.00		0.06
Lane Grp Cap(c), veh/h	212	0	257	285	0	231	521	1134	1179	447	1116	1161
V/C Ratio(X)	0.21	0.00	0.34	0.15	0.00	0.05	0.20	0.38	0.38	0.10	0.33	0.33
Avail Cap(c_a), veh/h	356	0	441	459	0	397	613	1134	1179	557	1116	1161
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	41.4	0.0	37.9	36.9	0.0	36.3	6.4	8.6	8.6	6.6	8.6	8.6
Incr Delay (d2), s/veh	0.2	0.0	0.3	0.1	0.0	0.0	0.1	1.0	1.0	0.0	0.8	0.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.1	0.0	2.1	1.0	0.0	0.3	1.0	6.0	6.2	0.4	4.9	5.1
LnGrp Delay(d),s/veh	41.6	0.0	38.2	37.0	0.0	36.3	6.4	9.6	9.5	6.6	9.4	9.3
LnGrp LOS	D		D	D		D	A	A	A	A	A	A
Approach Vol, veh/h		130			55			992			787	
Approach Delay, s/veh		39.4			36.8			9.2			9.2	
Approach LOS		D			D			A			A	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	8.8	70.1		21.1	9.8	69.1		21.1
Change Period (Y+Rc), s	6.0	6.0		6.0	6.0	6.0		6.0
Max Green Setting (Gmax), s	9.0	47.0		26.0	9.0	47.0		26.0
Max Q Clear Time (g_c+I1), s	2.9	13.8		9.6	4.0	11.6		6.6
Green Ext Time (p_c), s	0.0	6.3		0.3	0.0	5.0		0.1

Intersection Summary	
HCM 2010 Ctrl Delay	12.0
HCM 2010 LOS	B

Timings
102: S. Federal Hwy & Van Burren St

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations									
Traffic Volume (vph)	43	47	15	27	12	100	844	43	705
Future Volume (vph)	43	47	15	27	12	100	844	43	705
Turn Type	Perm	NA	Perm	NA	Perm	pm+pt	NA	pm+pt	NA
Protected Phases		4		8		5	2	1	6
Permitted Phases	4		8		8	2		6	
Detector Phase	4	4	8	8	8	5	2	1	6
Switch Phase									
Minimum Initial (s)	6.0	6.0	6.0	6.0	6.0	4.0	10.0	4.0	10.0
Minimum Split (s)	29.0	29.0	29.0	29.0	29.0	10.0	24.0	10.0	24.0
Total Split (s)	32.0	32.0	32.0	32.0	32.0	15.0	53.0	15.0	53.0
Total Split (%)	32.0%	32.0%	32.0%	32.0%	32.0%	15.0%	53.0%	15.0%	53.0%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0		6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag						Lead	Lag	Lead	Lag
Lead-Lag Optimize?						Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	C-Max	None	C-Max
Act Effct Green (s)	8.2	8.2		8.2	8.2	79.2	76.9	76.8	74.2
Actuated g/C Ratio	0.08	0.08		0.08	0.08	0.79	0.77	0.77	0.74
v/c Ratio	0.41	0.49		0.33	0.06	0.18	0.33	0.09	0.28
Control Delay	54.0	35.7		49.5	0.5	3.2	5.7	3.1	6.2
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	54.0	35.7		49.5	0.5	3.2	5.7	3.1	6.2
LOS	D	D		D	A	A	A	A	A
Approach Delay		41.9		38.8			5.5		6.1
Approach LOS		D		D			A		A

Intersection Summary	
Cycle Length: 100	
Actuated Cycle Length: 100	
Offset: 8 (8%), Referenced to phase 2:NBTL and 6:SBTL, Start of Yellow	
Natural Cycle: 65	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.49	
Intersection Signal Delay: 9.1	Intersection LOS: A
Intersection Capacity Utilization 57.4%	ICU Level of Service B
Analysis Period (min) 15	

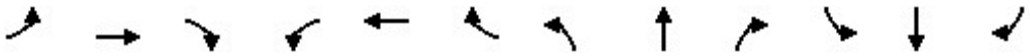
Splits and Phases: 102: S. Federal Hwy & Van Burren St

Queues
102: S. Federal Hwy & Van Burren St

Lane Group	EBL	EBT	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	44	86	43	12	102	890	44	743
v/c Ratio	0.41	0.49	0.33	0.06	0.18	0.33	0.09	0.28
Control Delay	54.0	35.7	49.5	0.5	3.2	5.7	3.1	6.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	54.0	35.7	49.5	0.5	3.2	5.7	3.1	6.2
Queue Length 50th (ft)	27	30	26	0	10	104	4	85
Queue Length 95th (ft)	61	75	59	0	25	161	13	135
Internal Link Dist (ft)		436	589			416		409
Turn Bay Length (ft)	70			60	140		80	
Base Capacity (vph)	345	477	411	469	629	2705	566	2611
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.13	0.18	0.10	0.03	0.16	0.33	0.08	0.28

Intersection Summary

HCM Unsignalized Intersection Capacity Analysis
101: S 19 Ave & Van Burren St



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	6	70	4	19	87	46	12	126	33	34	156	12
Future Volume (vph)	6	70	4	19	87	46	12	126	33	34	156	12
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84
Hourly flow rate (vph)	7	83	5	23	104	55	14	150	39	40	186	14

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	95	182	203	240
Volume Left (vph)	7	23	14	40
Volume Right (vph)	5	55	39	14
Hadj (s)	0.02	-0.12	-0.07	0.03
Departure Headway (s)	5.3	5.0	4.9	4.9
Degree Utilization, x	0.14	0.25	0.28	0.33
Capacity (veh/h)	606	652	686	683
Control Delay (s)	9.2	9.7	9.8	10.4
Approach Delay (s)	9.2	9.7	9.8	10.4
Approach LOS	A	A	A	B

Intersection Summary			
Delay	9.9		
Level of Service	A		
Intersection Capacity Utilization	39.5%	ICU Level of Service	A
Analysis Period (min)	15		

HCM 2010 Signalized Intersection Summary
102: S. Federal Hwy & Van Burren St

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	44	48	37	40	46	46	102	914	64	93	764	25
Future Volume (veh/h)	44	48	37	40	46	46	102	914	64	93	764	25
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.98		0.97	0.98		0.97	1.00		0.99	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1900	1863	1863	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	45	49	38	41	47	47	104	933	65	95	780	26
Adj No. of Lanes	1	1	0	0	1	1	1	2	0	1	2	0
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	196	160	124	140	142	256	480	2067	144	401	2144	71
Arrive On Green	0.17	0.17	0.17	0.17	0.17	0.17	0.04	0.62	0.62	0.04	0.61	0.61
Sat Flow, veh/h	1267	959	744	522	853	1532	1774	3355	234	1774	3494	116
Grp Volume(v), veh/h	45	0	87	88	0	47	104	492	506	95	395	411
Grp Sat Flow(s),veh/h/ln	1267	0	1702	1375	0	1532	1774	1770	1819	1774	1770	1841
Q Serve(g_s), s	3.3	0.0	4.5	2.4	0.0	2.6	2.2	14.8	14.8	2.0	11.1	11.1
Cycle Q Clear(g_c), s	10.2	0.0	4.5	6.9	0.0	2.6	2.2	14.8	14.8	2.0	11.1	11.1
Prop In Lane	1.00		0.44	0.47		1.00	1.00		0.13	1.00		0.06
Lane Grp Cap(c), veh/h	196	0	284	282	0	256	480	1090	1120	401	1086	1130
V/C Ratio(X)	0.23	0.00	0.31	0.31	0.00	0.18	0.22	0.45	0.45	0.24	0.36	0.36
Avail Cap(c_a), veh/h	314	0	443	425	0	398	570	1090	1120	495	1086	1130
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	42.2	0.0	36.6	37.4	0.0	35.8	7.1	10.2	10.2	7.7	9.6	9.6
Incr Delay (d2), s/veh	0.2	0.0	0.2	0.2	0.0	0.1	0.1	1.4	1.3	0.1	0.9	0.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.2	0.0	2.1	2.2	0.0	1.1	1.1	7.5	7.7	1.0	5.7	5.9
LnGrp Delay(d),s/veh	42.4	0.0	36.8	37.6	0.0	35.9	7.2	11.6	11.5	7.8	10.6	10.5
LnGrp LOS	D		D	D		D	A	B	B	A	B	B
Approach Vol, veh/h		132			135			1102			901	
Approach Delay, s/veh		38.7			37.0			11.1			10.3	
Approach LOS		D			D			B			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	9.7	67.6		22.7	10.0	67.4		22.7
Change Period (Y+Rc), s	6.0	6.0		6.0	6.0	6.0		6.0
Max Green Setting (Gmax), s	9.0	47.0		26.0	9.0	47.0		26.0
Max Q Clear Time (g_c+I1), s	4.0	16.8		12.2	4.2	13.1		8.9
Green Ext Time (p_c), s	0.0	7.3		0.3	0.0	5.5		0.3

Intersection Summary	
HCM 2010 Ctrl Delay	13.9
HCM 2010 LOS	B

Timings
102: S. Federal Hwy & Van Burren St

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations									
Traffic Volume (vph)	44	48	40	46	46	102	914	93	764
Future Volume (vph)	44	48	40	46	46	102	914	93	764
Turn Type	Perm	NA	Perm	NA	Perm	pm+pt	NA	pm+pt	NA
Protected Phases		4		8		5	2	1	6
Permitted Phases	4		8		8	2		6	
Detector Phase	4	4	8	8	8	5	2	1	6
Switch Phase									
Minimum Initial (s)	6.0	6.0	6.0	6.0	6.0	4.0	10.0	4.0	10.0
Minimum Split (s)	29.0	29.0	29.0	29.0	29.0	10.0	24.0	10.0	24.0
Total Split (s)	32.0	32.0	32.0	32.0	32.0	15.0	53.0	15.0	53.0
Total Split (%)	32.0%	32.0%	32.0%	32.0%	32.0%	15.0%	53.0%	15.0%	53.0%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0		6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag						Lead	Lag	Lead	Lag
Lead-Lag Optimize?						Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	C-Max	None	C-Max
Act Effct Green (s)	10.2	10.2		10.2	10.2	75.5	72.1	74.1	68.8
Actuated g/C Ratio	0.10	0.10		0.10	0.10	0.76	0.72	0.74	0.69
v/c Ratio	0.35	0.42		0.58	0.19	0.20	0.40	0.22	0.33
Control Delay	47.9	30.8		57.1	2.1	4.1	8.1	4.5	7.8
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	47.9	30.8		57.1	2.1	4.1	8.1	4.5	7.8
LOS	D	C		E	A	A	A	A	A
Approach Delay		36.7		37.9			7.7		7.4
Approach LOS		D		D			A		A

Intersection Summary	
Cycle Length: 100	
Actuated Cycle Length: 100	
Offset: 8 (8%), Referenced to phase 2:NBTL and 6:SBTL, Start of Yellow	
Natural Cycle: 65	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.58	
Intersection Signal Delay: 11.1	Intersection LOS: B
Intersection Capacity Utilization 62.4%	ICU Level of Service B
Analysis Period (min) 15	

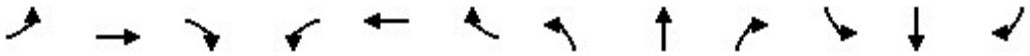
Splits and Phases: 102: S. Federal Hwy & Van Burren St

Queues
102: S. Federal Hwy & Van Burren St

Lane Group	EBL	EBT	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	45	87	88	47	104	998	95	806
v/c Ratio	0.35	0.42	0.58	0.19	0.20	0.40	0.22	0.33
Control Delay	47.9	30.8	57.1	2.1	4.1	8.1	4.5	7.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	47.9	30.8	57.1	2.1	4.1	8.1	4.5	7.8
Queue Length 50th (ft)	27	29	55	0	12	137	11	103
Queue Length 95th (ft)	60	73	101	3	30	215	27	165
Internal Link Dist (ft)		436	589			416		409
Turn Bay Length (ft)	70			60	140		80	
Base Capacity (vph)	331	477	390	469	574	2521	492	2422
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.14	0.18	0.23	0.10	0.18	0.40	0.19	0.33

Intersection Summary

HCM Unsignalized Intersection Capacity Analysis
101: S 19 Ave & Van Burren St



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	6	72	4	19	107	47	12	129	33	34	160	12
Future Volume (vph)	6	72	4	19	107	47	12	129	33	34	160	12
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84
Hourly flow rate (vph)	7	86	5	23	127	56	14	154	39	40	190	14

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	98	206	207	244
Volume Left (vph)	7	23	14	40
Volume Right (vph)	5	56	39	14
Hadj (s)	0.02	-0.11	-0.07	0.03
Departure Headway (s)	5.4	5.1	5.0	5.1
Degree Utilization, x	0.15	0.29	0.29	0.34
Capacity (veh/h)	593	645	669	666
Control Delay (s)	9.4	10.2	10.0	10.7
Approach Delay (s)	9.4	10.2	10.0	10.7
Approach LOS	A	B	B	B

Intersection Summary				
Delay	10.2			
Level of Service	B			
Intersection Capacity Utilization	40.8%	ICU Level of Service	A	
Analysis Period (min)	15			

HCM 2010 Signalized Intersection Summary
102: S. Federal Hwy & Van Burren St

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	44	48	37	40	46	46	102	914	64	93	764	25
Future Volume (veh/h)	44	48	37	40	46	46	102	914	64	93	764	25
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.98		0.97	0.98		0.97	1.00		0.99	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1900	1863	1863	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	45	49	38	41	47	47	104	933	65	95	780	26
Adj No. of Lanes	1	1	0	0	1	1	1	2	0	1	2	0
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	196	160	124	140	142	256	480	2067	144	401	2144	71
Arrive On Green	0.17	0.17	0.17	0.17	0.17	0.17	0.04	0.62	0.62	0.04	0.61	0.61
Sat Flow, veh/h	1267	959	744	522	853	1532	1774	3355	234	1774	3494	116
Grp Volume(v), veh/h	45	0	87	88	0	47	104	492	506	95	395	411
Grp Sat Flow(s),veh/h/ln	1267	0	1702	1375	0	1532	1774	1770	1819	1774	1770	1841
Q Serve(g_s), s	3.3	0.0	4.5	2.4	0.0	2.6	2.2	14.8	14.8	2.0	11.1	11.1
Cycle Q Clear(g_c), s	10.2	0.0	4.5	6.9	0.0	2.6	2.2	14.8	14.8	2.0	11.1	11.1
Prop In Lane	1.00		0.44	0.47		1.00	1.00		0.13	1.00		0.06
Lane Grp Cap(c), veh/h	196	0	284	282	0	256	480	1090	1120	401	1086	1130
V/C Ratio(X)	0.23	0.00	0.31	0.31	0.00	0.18	0.22	0.45	0.45	0.24	0.36	0.36
Avail Cap(c_a), veh/h	314	0	443	425	0	398	570	1090	1120	495	1086	1130
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	42.2	0.0	36.6	37.4	0.0	35.8	7.1	10.2	10.2	7.7	9.6	9.6
Incr Delay (d2), s/veh	0.2	0.0	0.2	0.2	0.0	0.1	0.1	1.4	1.3	0.1	0.9	0.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.2	0.0	2.1	2.2	0.0	1.1	1.1	7.5	7.7	1.0	5.7	5.9
LnGrp Delay(d),s/veh	42.4	0.0	36.8	37.6	0.0	35.9	7.2	11.6	11.5	7.8	10.6	10.5
LnGrp LOS	D		D	D		D	A	B	B	A	B	B
Approach Vol, veh/h		132			135			1102			901	
Approach Delay, s/veh		38.7			37.0			11.1			10.3	
Approach LOS		D			D			B			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	9.7	67.6		22.7	10.0	67.4		22.7
Change Period (Y+Rc), s	6.0	6.0		6.0	6.0	6.0		6.0
Max Green Setting (Gmax), s	9.0	47.0		26.0	9.0	47.0		26.0
Max Q Clear Time (g_c+I1), s	4.0	16.8		12.2	4.2	13.1		8.9
Green Ext Time (p_c), s	0.0	7.3		0.3	0.0	5.5		0.3

Intersection Summary	
HCM 2010 Ctrl Delay	13.9
HCM 2010 LOS	B

Timings
102: S. Federal Hwy & Van Burren St

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations									
Traffic Volume (vph)	44	48	40	46	46	102	914	93	764
Future Volume (vph)	44	48	40	46	46	102	914	93	764
Turn Type	Perm	NA	Perm	NA	Perm	pm+pt	NA	pm+pt	NA
Protected Phases		4		8		5	2	1	6
Permitted Phases	4		8		8	2		6	
Detector Phase	4	4	8	8	8	5	2	1	6
Switch Phase									
Minimum Initial (s)	6.0	6.0	6.0	6.0	6.0	4.0	10.0	4.0	10.0
Minimum Split (s)	29.0	29.0	29.0	29.0	29.0	10.0	24.0	10.0	24.0
Total Split (s)	32.0	32.0	32.0	32.0	32.0	15.0	53.0	15.0	53.0
Total Split (%)	32.0%	32.0%	32.0%	32.0%	32.0%	15.0%	53.0%	15.0%	53.0%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0		6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag						Lead	Lag	Lead	Lag
Lead-Lag Optimize?						Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	C-Max	None	C-Max
Act Effct Green (s)	10.2	10.2		10.2	10.2	75.5	72.1	74.1	68.8
Actuated g/C Ratio	0.10	0.10		0.10	0.10	0.76	0.72	0.74	0.69
v/c Ratio	0.35	0.42		0.58	0.19	0.20	0.40	0.22	0.33
Control Delay	47.9	30.8		57.1	2.1	4.1	8.1	4.5	7.8
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	47.9	30.8		57.1	2.1	4.1	8.1	4.5	7.8
LOS	D	C		E	A	A	A	A	A
Approach Delay		36.6		37.9			7.7		7.4
Approach LOS		D		D			A		A

Intersection Summary	
Cycle Length: 100	
Actuated Cycle Length: 100	
Offset: 8 (8%), Referenced to phase 2:NBTL and 6:SBTL, Start of Yellow	
Natural Cycle: 65	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.58	
Intersection Signal Delay: 11.1	Intersection LOS: B
Intersection Capacity Utilization 62.4%	ICU Level of Service B
Analysis Period (min) 15	

Splits and Phases: 102: S. Federal Hwy & Van Burren St

Queues
102: S. Federal Hwy & Van Burren St

Lane Group	EBL	EBT	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	45	87	88	47	104	998	95	806
v/c Ratio	0.35	0.42	0.58	0.19	0.20	0.40	0.22	0.33
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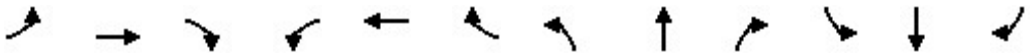
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	47.9	30.8	57.1	2.1	4.1	8.1	4.5	7.8
Queue Length 50th (ft)	27	29	55	0	12	137	11	103
Queue Length 95th (ft)	60	73	101	3	30	215	27	165
Internal Link Dist (ft)		436	589			416		409
Turn Bay Length (ft)	70			60	140		80	
Base Capacity (vph)	332	477	390	469	574	2521	492	2422
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.14	0.18	0.23	0.10	0.18	0.40	0.19	0.33

Intersection Summary

HCM Unsignalized Intersection Capacity Analysis
101: S 19 Ave & Van Burren St



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	6	72	4	19	107	47	12	129	33	34	160	12
Future Volume (vph)	6	72	4	19	107	47	12	129	33	34	160	12
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84
Hourly flow rate (vph)	7	86	5	23	127	56	14	154	39	40	190	14

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	98	206	207	244
Volume Left (vph)	7	23	14	40
Volume Right (vph)	5	56	39	14
Hadj (s)	0.02	-0.11	-0.07	0.03
Departure Headway (s)	5.4	5.1	5.0	5.1
Degree Utilization, x	0.15	0.29	0.29	0.34
Capacity (veh/h)	593	645	669	666
Control Delay (s)	9.4	10.2	10.0	10.7
Approach Delay (s)	9.4	10.2	10.0	10.7
Approach LOS	A	B	B	B

Intersection Summary				
Delay	10.2			
Level of Service	B			
Intersection Capacity Utilization	40.8%	ICU Level of Service	A	
Analysis Period (min)	15			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	89	0	0	173	12	40
Future Volume (Veh/h)	89	0	0	173	12	40
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	97	0	0	188	13	43
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)				516		
pX, platoon unblocked						
vC, conflicting volume			97		285	97
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			97		285	97
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		98	96
cM capacity (veh/h)			1496		705	959

Direction, Lane #	EB 1	WB 1	NB 1	NB 2
Volume Total	97	188	13	43
Volume Left	0	0	13	0
Volume Right	0	0	0	43
cSH	1700	1700	705	959
Volume to Capacity	0.06	0.11	0.02	0.04
Queue Length 95th (ft)	0	0	1	4
Control Delay (s)	0.0	0.0	10.2	8.9
Lane LOS			B	A
Approach Delay (s)	0.0	0.0	9.2	
Approach LOS			A	

Intersection Summary			
Average Delay	1.5		
Intersection Capacity Utilization	19.1%	ICU Level of Service	A
Analysis Period (min)	15		

Seventh Day Adventist Church School

1808 Van Buren Street
Hollywood, Broward County, Florida

prepared for:
Seventh Day Adventist Church School

traffic operations plan

TRAFTECH ENGINEERING, INC.

September 2019

TRAFTECH
ENGINEERING, INC.

September 26, 2019

Seventh Day Adventist Church School
c/o Alfonso Jurado, AIA, LEED AP
alfonsojurado / ARCHITECTURE
1035 N. Miami Avenue, Suite 406
Miami, Florida 33136

Re: **Seventh Day Adventist Church School – Traffic Operations Plan**

Dear Alfonso:

In response to City of Hollywood's concerns regarding potential traffic conflicts with the existing Hollywood Academy of Arts and Sciences located on Van Buren Street, east of South Federal Highway/US 1, Traf Tech Engineering, Inc. has developed a Traffic Operations Plan in order to minimize traffic conflicts between the two school during the school's critical afternoon pick-up periods. The proposed Traffic Operations Plan is summarized below:

- The Seventh Day Adventist Church School should dismiss school classes no earlier than 3:30 PM in order to avoid conflicts with the Hollywood Academy of Arts and Sciences.

- Provide traffic cones at the entrance driveway during the afternoon pick-up period blocking the eastern one-half of the driveway in order to discourage incoming traffic from arriving from South Federal Highway (all arriving school traffic will be required to arrive from the west via Van Buren Street).

- Install a "NO LEFT TURN" sign with a supplemental plaque that reads "School Days 3PM to 4PM" for westbound traffic traveling on Van Buren Street at the entrance driveway.

- Provide a school traffic control person at the entrance driveway in order to enforce all incoming school traffic to arrive from the west via Van Buren Street. Any school vehicle arriving from the east will be instructed to continue west on Van Buren Street and find an alternative route in order to arrive from the west.

- Provide a school traffic control person at the exit driveway. If traffic backups are observed on Van Buren Street at South Federal Highway, this traffic control person would instruct exiting vehicles to turn left onto the westbound lanes of Van Buren Street until the South Federal Highway/Van Buren Street traffic back-ups dissipate.

- The eastbound left-turn lane at the intersection of South Federal Highway and Van Buren Street has a storage length of approximately 60 feet. This turn lane should be lengthened as much as feasible prior to conflicting with the first on-street parking space located on the south side of Van Buren Street. It appears the subject left-turn lane can be lengthened by approximately 50%.

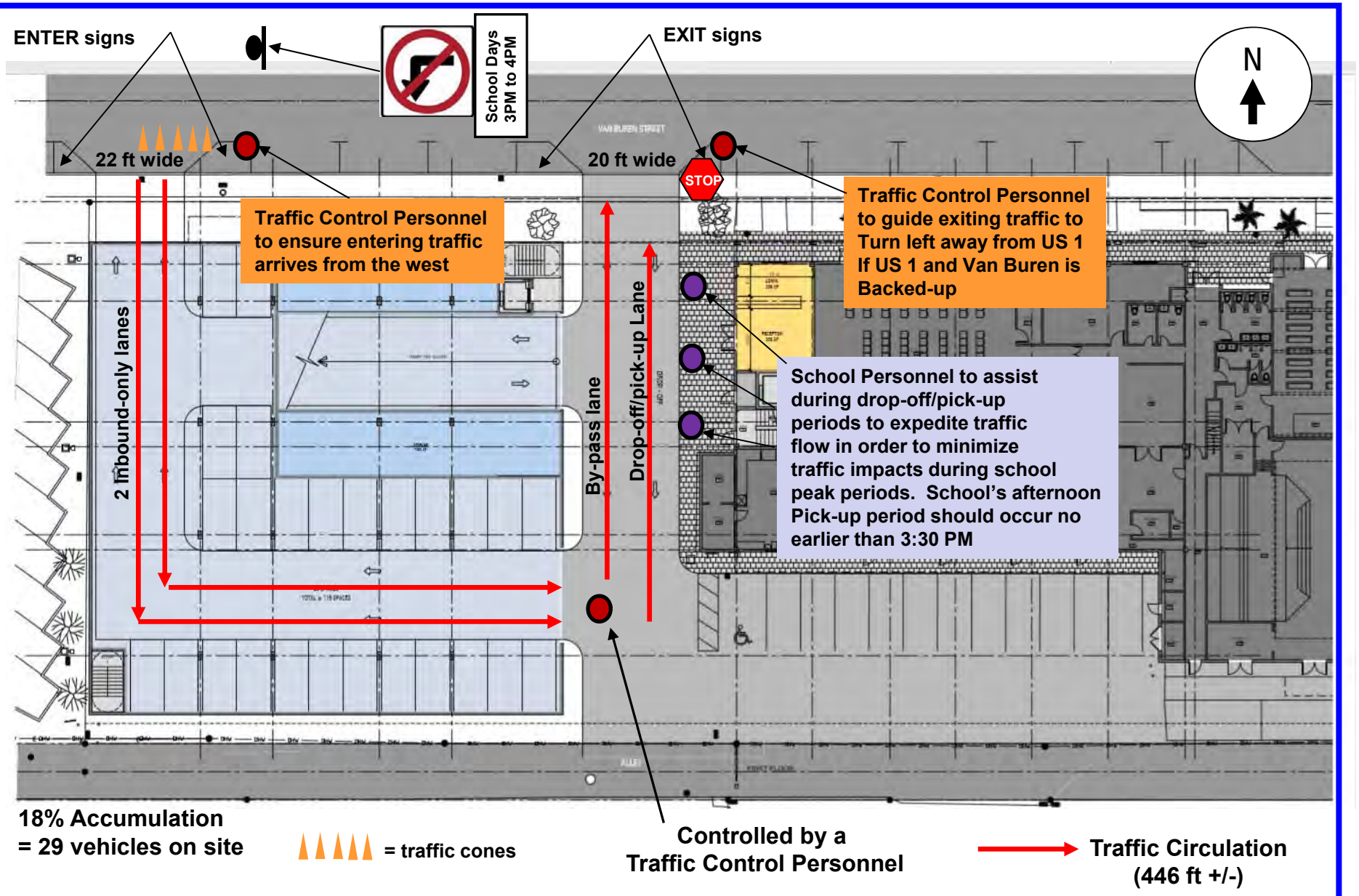
- Provide school personnel at the proposed drop-off/pick-up location in order to expedite traffic flow during the school's drop-off and pick-up periods.

The above recommendations are depicted in the attached Figure 1. Please give me a call if you have any questions.

Sincerely,

TRAF TECH ENGINEERING, INC.

Joaquin E. Vargas, P.E.
Senior Transportation Engineer



Traf Tech
ENGINEERING, INC.

Traffic Operations Plan and School Circulation

FIGURE 1
Seventh Day Adventist
Church School
Hollywood, Florida