

GENERAL CONDITIONS
Construction of Project

REVIEW AND INSPECTION

The review by the Engineer of the work is for the purpose of assuring the Owner that the Construction Documents are properly executed. It is not incumbent upon the Engineer to notify the Contractor, to stop, or to resume work, or to file early notice of rejection of faulty materials or workmanship or to superintend the extent of relieving the Contractor of responsibility.

It is mutually agreed that the Engineers shall decide all questions, difficulties, and disputes relative to the interpretation of the Contract Documents or Construction. The County Engineer as representative of the accepting agency shall be the referee in all controversies. The Inspector shall have safe access to the work wherever it is in progress and the Contractor shall provide for such access and inspection.

All work done and materials furnished shall be subject to inspection by the Engineer, and any part condemned by the Engineer shall be removed and replaced at the Contractor's expense. If the Contractor refuses to replace or delays for an unwarranted length of time in replacing such condemned work, the Owner may stop the Contractor and the work, and supply men and materials to replace such condemned work and all expenses thereto shall be deducted from the amount due to the Contractor from the Owner.

If any work should be covered up without the approval of the Engineer, it must if required by the Engineers, be uncovered for examination at the Contractor's expense. WORK STOPPAGE The work shall not be stopped by the Contractor without the consent of the Engineer and/or the Owner, unless the Engineer or Owner orders the work stopped. A temporary suspension may be granted because of weather or other natural causes after the Contractor has notified the Engineer of said suspension in writing, setting forth the causes and the date of re-commencement.

Contingency Work Whenever the Engineer deems it necessary to make construction changes or construction additions in order to make the finished product more closely comply with the intended scope of the plans, whether shown on the plans or not, the contractor shall enter into a contingency agreement with the Owner to cover the cost of said changes or additions, and the price for said contingency shall conform, as nearly as possible, to the unit prices for similar work in the original contract. All changes must be approved by the County Engineer.

FINAL AUTHORITY Polk County ordinance shall be the final authority for the installation of improvements outlined in these specifications.

GENERAL CONDITIONS
Pre-Construction Steps

Pre-Construction Conference It is required that the Contractor meet with the Engineer prior to any construction to review the Construction Documents. Construction Plans ALL Construction Documents MUST bear the Engineer's stamp "Approved For Construction" in order to be used on the site. NO WORK MAY COMMENCE until the Contractor has secured said documents. Any plans not bearing said stamp are not approved for construction.

Contractors' Certification The successful Contractor must execute, and return to the Engineer, the "Contractor's Certification" before any construction is commenced.

Notice of Commencement The Contractor shall notify the Owner, Engineer, Polk County, and any Public Agencies involved one (1) week prior to commencing work. Failure to give this notice may result in the work being stopped until such notice is given.

Permits and Licenses The Contractor shall be responsible for securing all permits and licenses from all agencies as to highway entry, curb cuts, sewer taps, or others, and shall pay all fees for the same as applied to the prosecution of this work.

GENERAL CONDITIONS
Construction of Project

Superintendent The Contractor shall keep on his work during its progress and have a competent Superintendent. The superintendent shall represent the Contractor in his absence and all directions given to him by the Engineer shall be as binding as if given to him by the Contractor.

Protection of Monuments The Contractor shall protect all survey permanent reference markers, bench marks, triangulation points, section corners, etc. If the work requires the relocation or movement of such a monument, the Contractor shall notify the Engineer of such requirement, and the Engineer shall reference and reset such monuments at the Owner's expense. If the Contractor destroys any such points, the cost of replacement will be born by the Contractor. This includes iron rods, or other, set as lot corners.

Changes In The Work The Engineers shall have the authority to make minor changes in the work, not involving extra cost, but otherwise, no change shall be made, except by written order from the Engineer. All changes must also be approved by the County Engineer or his representative.

Maintenance of Traffic Where the work is on, or lying into, a street or highway being utilized by traffic, the Contractor shall maintain traffic wherever possible by use of marked detours, stabilized roadbed, or other approved methods.

Referenced to Other Specifications Where reference is made to specifications such as American Society For Testing Materials (ASTM), Florida Department of Transportation (F.D.O.T.), or Association of State Highway and Transportation Officials (AASHTO), the latest addition shall be used.

Lines and Grades The Contractor shall furnish and set all line and grade stakes, at his own expense, according to the dimensions etc., shown on the plans.

Materials Unless otherwise specified, all materials shall be new and both materials and workmanship shall be of good quality. The Contractor shall, retain a reputable commercial laboratory who shall certify to the County Engineer that all materials entering into the completed work are in accordance with these specifications.

Protection of Adjoining Properties The Contractor shall protect all properties outside the limits of of construction and shall indemnify and save harmless the Engineers against any claims of liabilities arising from damage to adjoining properties during construction.

GENERAL CONDITIONS
Definitions

These General Conditions apply to all parts of the work. Contractors shall be supplied with a copy of these General Conditions and no arrangement with the subcontractor shall be such as to conflict with the General Conditions. They shall also apply to any extra work or changes.

Construction Documents: The Construction Documents consists of the General Conditions, Detailed Specifications, Details and Drawings.

Contractor: Those having prime responsibility for the construction work.

Work: The term work on the Contractor includes all labor or materials or both, equipment transportation, or any other facilities necessary to complete this project.

Engineers: Refers to Alpha Engineering & Surveying, Inc., as the Engineers appointed by the Owner to have responsible charge of work as representatives of the Owners, and to their properly authorized agents.

Inspector: Refers to the representative of Alpha Engineering & Surveying, Inc., or the representative of Polk County as the accepting agency authorized to review the progress of construction.

Owner: That person, or persons, group or corporation or other, who has ordered this work done and to whom the Contractor looks for payment.

Laboratory: Any independent testing laboratory authorized to perform the required tests, EXCEPT any laboratory connected with the Contractor.

Superintendent: That person authorized by the Contractor to supervise the work and who must be well qualified and must have authority to order work as directed by the Engineer.

GENERAL CONDITIONS
Examination of Documents and Site

Examination Of Construction Documents

The Contractor is responsible for making himself and his Superintendent thoroughly familiar with all construction documents, and all quality and quantity of materials required prior to submission of a proposal.

Examination Of Site

The Contractor is responsible for making his own site evaluation as to character of soil, water table, or other construction considerations. Such information is frequently available through the Engineer, BUT, whether available or not, the Contractor is solely responsible for his own site investigation. Oversights resulting in extra expense are the Contractor's responsibility.

Subsurface Data And Existing Features.

The Contractor is responsible for the protection of all existing sewer lines, gas lines, water lines, cables, etc., whether shown on the plans or not. Damages to such features shall be the responsibility of the Contractor.

Errors Or Omissions

If the Contractor finds any discrepancy between the drawings and the conditions of the locality, or any error or omissions in drawings or in layout as given by points and instructions, it shall be his duty to immediately inform the Engineer. Any work done after such discovery, until authorized, shall be done at the Contractor's risk. Quantities on plans or bid forms do not relieve Contractor from estimated responsibility. It shall be the responsibility of the Contractor to do a construction estimate prior to submitting a bid to the owner. Any differences between quantities shown on the plans or bid forms and the Contractor's estimate will be promptly called to the attention of the Engineers prior to bidding the work. The Contractor shall be solely responsible for his own estimates of quantities.

"Or Equal" Clause

Specific reference in the Construction Documents to any product material, or type of construction by name, make or catalog number, shall be interpreted as a standard of quality and shall not be construed as limited competition. Substitutions must be approved by the Engineer, in writing.

ANY EXISTING WELLS IN THE PATH OF CONSTRUCTION SHALL BE PROPERLY PLUGGED AND ABANDONED BY A LICENSED WATER WELL CONTRACTOR IN ACCORDANCE WITH CHAPTER 40D-3 AND 17-21.10.

STORMWATER CONSTRUCTION INSTRUCTIONS

All stormwater runoff from this site during construction shall be monitored visually by the Contractor to assure water quality and quantity are generally maintained to the pre-development levels. The following shall be used to accomplish mitigation of adverse quantity and quality impacts to offsite properties during the construction period.

- 1. Drainage systems shall be constructed as soon as possible to avoid any increase in runoff resulting from the new development.
- 2. Where work is performed in a water course or water body, silt curtains and silt screen shall be utilized to control siltation and turbidity.
- 3. Disturbed areas will as a minimum requirement be grassed and mulched when erosion or siltation is a problem.
- 4. If special conditions or unanticipated measures are required to control stormwater runoff they shall be implemented to mitigate adverse impacts to offsite properties.

STORMWATER OPERATION AND MAINTENANCE INSTRUCTIONS

The stormwater system for this site has been designed to require little maintenance with respect to all structural components. Any broken pipes or damaged inlets must be replace or repaired.

All retention areas without aquatic vegetation shall be kept mowed by the property owners to prevent rodents and other undesirable pests from taking refuge.

Swales and ditches shall be cleaned as required to maintain flows and resodded when necessary.

Maintenance on retention/detention shall be performed as follows: RULE 17-25 PERMITTED SYSTEMS = WET PONDS

RETENTION NO. Wet detention ponds with aquatic vegetation are designed to allow for a return of the treatment volume in no less than 120 hours and discharged no more than one-half the treatment volume within 60 hours.

Maintenance schedule: 1st year - quarterly inspection; 2nd and 3rd years - semi-annual inspection. Cattails, water primrose, and other exotic species shall be removed. Annual replanting shall be required for wet retention areas where plans specify wetland and aquatic vegetation that have not met the 85% survival rate required for wet ponds design standards. Lot owners shall not mow or spray herbicides in wet ponds.

Siltation problems shall be corrected by excavation to design depths and replanted with appropriate wetland and aquatic vegetation. Problems with pond drawdown may be corrected by checking drawdown pipes for clogging.

MONITORING: 1) Quantitative and photographic documentation includes: A) water level elevation; B) % survival each species; C) % coverage of naturally recruited species; D) % density; E) % frequency; 2) monitoring reports shall be submitted quarterly for the 1st year and biannually for the 2nd and 3rd years to show compliance with the maintenance schedule.

CONSTRUCTION: 1) Mitigation areas are to have humus soil, either imported from offsite or transported from onsite dredge and fill areas and placed at a minimum thickness of 4 inches in areas specified on the construction plans. Donor sites must not be offsite wetland areas which have not been permitted for removal of this kind of onsite wetlands proposed for preservation.

RULE 17-25 EXEMPTED SYSTEMS - DRY PONDS

RETENTION NO. Dry retention/detention systems utilize percolation, evaporation evapotranspiration to dispose of the treatment volume within 72 hours. Detention systems may utilize side drains which filter through 2 feet of sand to return the treatment volume within 72 hours.

Depending on the type of pond design for the stormwater management system, the components require maintenance when the system does not perform as specified above.

Maintenance shall be as required to return the system operation to design specifications and shall include, but not be limited to removing siltation in retention areas, replacement or addition of side drains or cleaning discharge structures.

The maintenance authority shall be responsible for monitoring the stormwater system for unsafe conditions and correcting unsafe conditions to whatever extent necessary.

Installation A. Clearing The contractor shall perform all clearing necessary for the proper installation of the water and sewer lines and appurtenances in the locations shown on the drawing. Planting, shrubbery, trees, utility poles or structures subject to damage resulting from the excavation shall be transplanted, relocated, braced, shored or otherwise protected and preserved unless otherwise directed by the Engineer of record.

B. Excavation The Contractor shall perform all excavation of every description and of whatever substances encountered, to the dimensions and depth shown on the drawings, or as directed. All existing utilities such as pipes, poles and structures shall be carefully supported and protected from injury, and in case of damage, they shall be restored at no cost to Alpha.

Work shall be properly sheeted and braced where necessary. Where wood sheeting or certain designs of steel sheeting are used, the sheeting shall be cut off at a level two feet below finished ground grade of the installed pipe and that portion below that level shall be left in place. If interlocking steel sheeting, of a design approved by the Engineer is used, it may be removed providing removal can be accomplished without disturbing the bedding, pipe or alignment of the constructed main caused by removal of sheeting shall be cause for rejection of the affected portion of the work.

Pipe trenches shall be excavated to a width within the limits of the top of the pipe and the trench bottom, so as to provide a clearance on each side of the pipe barrel, measured to the face of the excavation, or if sheeting is used, of not less than eight inches (8"), nor more than twelve inches (12") except for pipe over eighteen inches (18"). All pipe trenches in unsuitable material shall be excavated to a level six inches (6") below the outside bottom of the proposed pipe barrel unless otherwise directed by the Engineer.

Excavation for appurtenances shall be sufficient to provide a clearance between their outer surfaces and the face of the excavation or sheeting if used, of not less than twelve inches (12").

C. Removal of Water

When practical, it is a requirement of these specifications that excavation shall be free from water before pipe or structures are installed. When not practical, work shall be done as specified by the Engineer.

The Contractor shall provide all necessary pumps, underdrains, well point systems, and other means for removing water from trenches and other parts of the work. The Contractor shall continue dewatering operations until the backfill has progressed to a sufficient depth over the pipe to prevent flotation or movement of the pipe in the trench.

Water from the trenches and excavation shall be disposed of in such a manner as will not cause injury to the public health, to public or private property, to the work completed or in progress, to the surface of the streets, or cause any interference with the use of the same by the public. Effluent from such systems shall be outletted into a stilling basin to permit the settling of sand in a confined area.

D. Laying

When the pipe is laid in the prepared trench, true to line and grade, the pipe barrel shall receive continuous uniform support and no pressure will be exerted on the pipe joints from the trench bottom.

The interior of the pipes shall be thoroughly cleaned of all foreign matter before being lowered into the trench. During suspension of work for any reason at any time, a suitable stopper shall be placed in the end of the pipe last laid to prevent mud or other foreign matter from entering the pipe. Lines shall be laid straight, and depth of cover shall be maintained uniform with respect to finished grade, whether grading is completed or proposed at time of pipe installation. Where a grade of slope is shown on the drawings, batter boards with string line or a laser beam paralleling design grade shall be used by the Contractor to assure conformance to required grade. No abrupt changes in direction or grade will be allowed. Any pipe found defective shall be immediately removed and replaced with sound pipe.

Restrained Joints shall be placed at all bends, tees, plugs and other fittings in pressurized systems to provide lateral support. Restrained joints shall conform to the details shown on the plans. Restrained joints may be used in place of thrust blocks with the Engineer's approval. The joints of all pipe lines shall be made absolutely tight. The particular joint used shall be approved by the Engineer prior to installation. Where shown on plans, or where, in the opinion of the Engineer, settlement or vibration is likely to occur, all pipe joints shall be bolted mechanical type as specified herein only.

Mechanical joints shall be made up using annealed high strength cast iron bolts and rubber gaskets having either plain or duck tip as recommended by the manufacturer. All types of mechanical joint pipes shall be laid and jointed in full conformance with manufacturer's recommendations, which shall be submitted to the Engineer for review and approval before work is begun. Only especially skilled workmen shall be permitted to make up mechanical joints. Torque wrenches set as specified in AWWA Standard C11-72 or latest revision, or spanner type wrenches may be used.

Push on joints shall be made in strict, complete compliance with the manufacturer's recommendations. Air release valves, both manual and automatic, shall be connected to the main by a two inch diameter tap using an iron double strap service saddle. The saddle may be omitted on mains larger than 12 inches. Air release assemblies shall be built as shown on the detailed drawings.

E. Casing Pipe--Jacking and Boring

1. All underground pipelines crossing existing Polk County roadways, Florida state Highways and railroads, shall be installed within jacked and bored steel casing pipe. Specific crossing requirements shall be obtained in advance from the authority having jurisdiction. It shall be the responsibility of the Contractor to submit the necessary permit documents and data to the appropriate authority and receive approval thereof.

2. Casing pipes crossing under roadways within the County shall be located at suitable approved alignments in order to eliminate possible conflicts with existing or future utilities and structures, with a minimum 36 inches depth of cover between the top of the casing pipe and the surface of the roadway. Casings shall be new prime steel pipe conforming to the requirements of ASTM Designation A-139.

The minimum casing pipe size and wall thickness shall be as shown in the following table, for the sewer or water carrier pipe size indicated. For size not included there, or for special design considerations, approval shall be obtained from the director.

3. Casing Pipe: For casing pipe crossings under roadways, railroads, or other installations not within the jurisdiction of Polk County, the Contractor shall comply with the regulations of said authority in regard to design, specifications and construction. State Highway casing installations shall be as specified in the Florida Department of Transportation, "Utility Accommodation Guide", and for railroads, the American Railway Engineering Association, Part 5, Section 5.2, "Specifications for Pipelines Conveying Non-Flammable Substances", shall be applicable. The jacking and boring operations shall be done simultaneously, with continuous installation, until the casing pipe is in final position. Correct line and grade shall be carefully maintained. Add-on sections of casing pipe shall be full-ring welded to the preceding length, developing water-tight total pipe strength joints. The casing installation shall produce no upheaval, settlement, cracking, movement or distortion of the existing roadbed or other facilities. Following placement of the carrier pipe within the steel casing, masonry plugs are to be installed at each open end. The plugs shall be suitable for restraining the external earth load, while allowing internal drainage. Casing pipe holes shall be mechanically bored through the soil by a cutting head on a continuous auger mounted inside the pipe. The auger shall extend a minimum distance beyond the end of the casing pipe to preclude formation of voids outside of the pipe shell. The casing pipe shall be adequately protected to prevent crushing or other damage under jacking pressures. Backstops shall be provided for adequately distributing the jack thrust without causing deformation of the soil or other damage. Should the casing pipe be damaged such damaged portion, if not in the hole, shall be replaced; however, if inserted, the encasement pipe shall be abandoned in place, suitable plugged, and an alternate installation made, as directed by the Engineer of record. Required boring and jacking pits or shafts shall be excavated and maintained to the minimum dimension. The excavations shall be adequately barricaded, sheeted, braced and dewatered, as required, in accordance with the applicable portions of these regulations.

F. Pipe Deflection

When it is necessary to deflect pipe from a straight line in either the vertical or horizontal plane, or where long radius curves are permitted, the amount of deflection shall not exceed the maximum deflection recommended by the manufacturer.

G. Backfill

Backfilling of utility trenches will not be allowed until the County has the opportunity to view the work. Any work which is covered up or concealed without the knowledge and consent of Polk County Engineering may be required to be uncovered or exposed at no cost to Polk County.

Backfill material shall be non-cohesive and non-plastic, free of all debris, lumps, clods, wood, broken paving or any organic or unstable material. Backfill material placed within one foot (1.0') of water lines shall not contain any stones or rocks larger than six inches (6") in diameter.

If a sufficient quantity of suitable backfill material is not available from the trench excavation or other trench excavations within the site of the work, Polk County Engineering shall order the Contractor to provide additional material suitable for this purpose. The additional material shall be installed as specified herein.

ALPHA ENGINEERING STANDARD CONDITIONS AND DEVELOPER'S RESPONSIBILITIES:

1. ALL MATERIALS AND WORKMANSHIP SHALL CONFORM TO THE LATEST EDITION OF THE POLK COUNTY ENGINEERING STANDARDS AND THE POLK COUNTY UTILITIES TECHNICAL STANDARDS AND SPECIFICATIONS MANUAL

2. ALPHA ENGINEERING DOES NOT GUARANTEE THAT ANY AND OR ALL PROPOSED IMPROVEMENTS WILL BE CONSTRUCTED ACCORDING TO PERMITS AND PLANS. THE DEVELOPER HAS NOT ENTERED INTO AN INSPECTION AND/OR SUPERVISION CONTRACT WITH THE ENGINEER. FURTHERMORE, ANY ADDITIONAL WORK REQUIRED BY ALPHA ENGINEERING RELATING TO NON COMPLIANT CONSTRUCTION WILL BE BILLED AT AN HOURLY RATE

3. IT IS THE DEVELOPER'S SOLE RESPONSIBILITY TO ENSURE THAT ALL PERMITTED IMPROVEMENTS ARE CONSTRUCTED TO SUBSTANTIAL COMPLIANCE WITH THE APPROVED CONSTRUCTION PLANS. ALPHA ENGINEERING WILL NOT BE HELD RESPONSIBLE FOR UNCOMPLETED ITEMS AND/OR WORK THAT DOES NOT CONFORM WITH THE INTENT OF THE PLANS.

4. IT IS THE DEVELOPER'S SOLE RESPONSIBILITY AS PERMITEE TO REVIEW AND UNDERSTAND ALL PROVISIONS WITHIN EACH AND EVERY PERMIT ASSOCIATED WITH THE APPROVAL AND CONSTRUCTION OF THIS PROJECT. ANY SERVICES THAT ARE REQUIRED DUE TO PERMIT CONDITIONS AND OR COMPLETION ITEMS THAT ARE NOT SPECIFICALLY INCLUDED WITHIN THE CONTRACT BETWEEN THE DEVELOPER AND ENGINEER SHALL BE BILLED AT AN HOURLY RATE.

5. IT IS ASSUMED THAT THE DEVELOPER AND CONTRACTOR HAVE READ AND UNDERSTANDS ALL LANGUAGE WITHIN THE APPROVED CONSTRUCTION PLANS, PERMITS, AND CONTRACTS. THE DEVELOPER OR CONTRACTOR MUST NOTIFY THE ENGINEER IN WRITING OF ANY QUESTIONS OR CONCERNS PERTAINING TO THE APPROVED CONSTRUCTION PLANS, PERMITS, OR CONTRACTS. THE ENGINEER SHALL RESPOND IN WRITING TO CLARIFY ANY REQUESTED INFORMATION.

Selected backfill material containing no stone or rocks larger than two inches (2") shall be placed in six inch (6") layers and thoroughly tamped to a depth of twelve inches over the top of the pipe. Particular attention and care shall be exercised in obtaining thorough support for the branch of all service connection tees, crosses and other fittings. Care shall be taken to preserve the alignment and gradient of the installed pipe.

After the backfill has been placed to a level thirty inches (30") over the pipe, the remainder of the backfill shall be placed in layers, not to exceed twelve inches (12") and compacted with mechanical vibrators, or other suitable equipment to obtain a density of the backfilled material of not less than 100 percent of it's maximum density as hereinafter defined.

The minimum depth of cover over force mains and water lines is 36", if 12' deep or deeper change PVC to D.I.P.

H. Compaction and Densities Under Roadways

Methods of control and testing of backfill construction to be employed in this work are:

- 1. Compaction shall be in accordance with Florida Department of Transportation "Standard Specifications for Road and Bridge Construction", Section 125-8.3.
- 2. Maximum density of backfill material within road base of sub-grade shall be determined by AASHTO Method Designation T180-70 Method D.
- 3. Maximum density of all other backfill material shall be determined by AASHTO

DATE: 08/21/07
DRAWN BY: R.M.L.
CERTIFICATE OF AUTHORIZATION #00001022
DATE: 10/16/06

REVISION (1) R.M.L. PER POLK COUNTY ERC

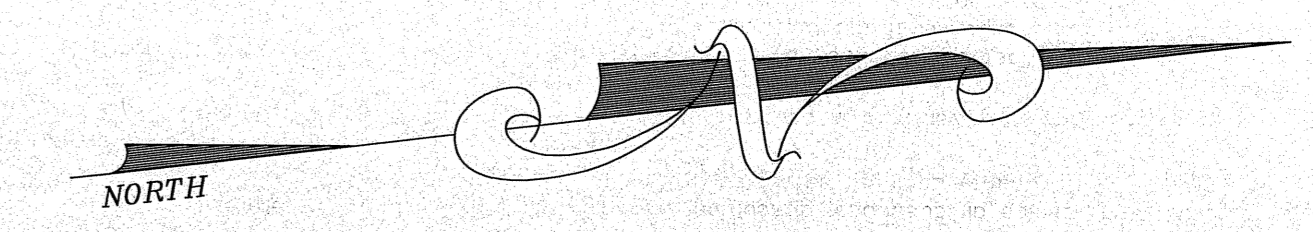
ALPHA ENGINEERING & SURVEYING, INC.
622 COMMENCE DRIVE, SUITE 104
POLK COUNTY, FL 32909
(883) 646-6571 FAX 646-4877

GENERAL CONDITIONS

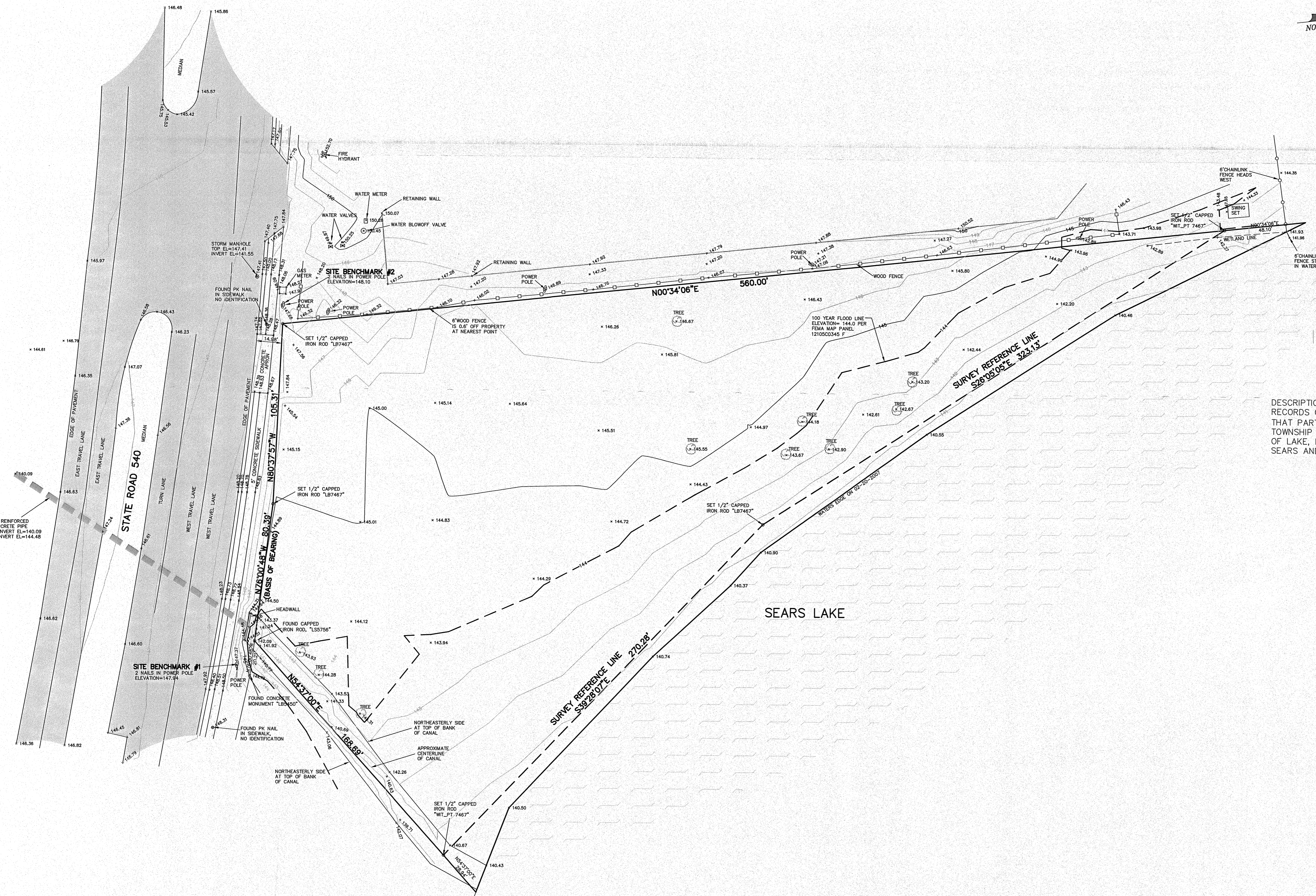
BEMMAN CENTER
POLK COUNTY, FL

18869

SECTION 36
TOWNSHIP 28 S.
RANGE 25 E.
DWG: GENERAL CONDITIONS
SHEET NO. 2
OF 10 SHEETS



SCALE: 1" = 30'



DESCRIPTION PER OFFICIAL RECORD BOOK 6682 PAGES 121-1212 PUBLIC RECORDS OF POLK COUNTY, FLORIDA, THAT PART OF SOUTHWEST 1/4 OF THE NORTHWEST 1/4 OF SECTION 36, TOWNSHIP 28 SOUTH, RANGE 25 EAST, POLK COUNTY, FLORIDA, LYING SOUTH OF LAKE, NORTH OF SR 540, AND WEST OF DRAINAGE DITCH CONNECTING LAKE SEARS AND SPIRIT LAKE.

ONE FOOT CONTOUR	
FIVE FOOT CONTOUR	
WOOD FENCE	W.F.
CHAIN LINK FENCE	C.L.F.
FIELD	(F)
ELEVATION	EL
BENCHMARK	BM
PARKER KALON	PK
POWER POLE	
BACK OF CURB	BOC
EDGE OF PAVEMENT	EOP
ASPHALT PAVEMENT	
CONCRETE PAVEMENT	

- SURVEY NOTES:**
- LANDS SHOWN HEREON WERE NOT ABSTRACTED FOR EASEMENTS, DEEDS, OR RIGHTS OF WAY OF RECORD.
 - BEARINGS SHOWN HEREON ARE RELATIVE TO THE NORTHEASTERLY RIGHT OF WAY SEGMENT OF STATE ROAD 540, THAT BEARING BEING N76°00'48"W AS SHOWN ON DRAWING LABELED (BASIS OF BEARING).
 - ELEVATIONS SHOWN ARE RELATIVE TO NGVD 1929 DATUM AND ARE BASED ON POLK COUNTY BENCHMARK #85363201, A RAILROAD SPIKE IN POWER POLE LOCATED ON THE NORTH SIDE OF STATE ROAD 540 AT INTERSECTION OF CRYSTAL BEACH ROAD (JUST EAST OF SITE), ELEVATION=146.93'
 - SURVEYOR IN RESPONSIBLE CHARGE WAS ROBERT E. LAZENBY III, P.S.M. 2260 THROUGH ALPHA ENGINEERING & SURVEYING INC., STATE OF FLORIDA COMPANY AUTHORIZATION #7467.
 - THIS SURVEY NOT VALID WITHOUT THE SIGNATURE AND THE ORIGINAL RAISED SEAL OF A FLORIDA LICENSED SURVEYOR AND MAPPER.
 - UNDERGROUND ENCROACHMENTS NOT LOCATED.
 - NO CEMETERIES OR BURIAL GROUNDS WERE FOUND ON PROPERTY.
 - THERE IS NO REPORT OR TEXT DOCUMENT ASSOCIATED WITH THIS SURVEY.
 - TREES WERE LOCATED AS SHOWN
 - THE LAST DATE OF FIELD WORK WAS 02-20-2007

THIS SURVEY IS NOT COVERED BY PROFESSIONAL LIABILITY INSURANCE

ROBERT E. LAZENBY III, P.S.M. 2260
 NO. 11-3-08
 DATE:

DRAWN BY: DAVE
DATE: 04-24-2008

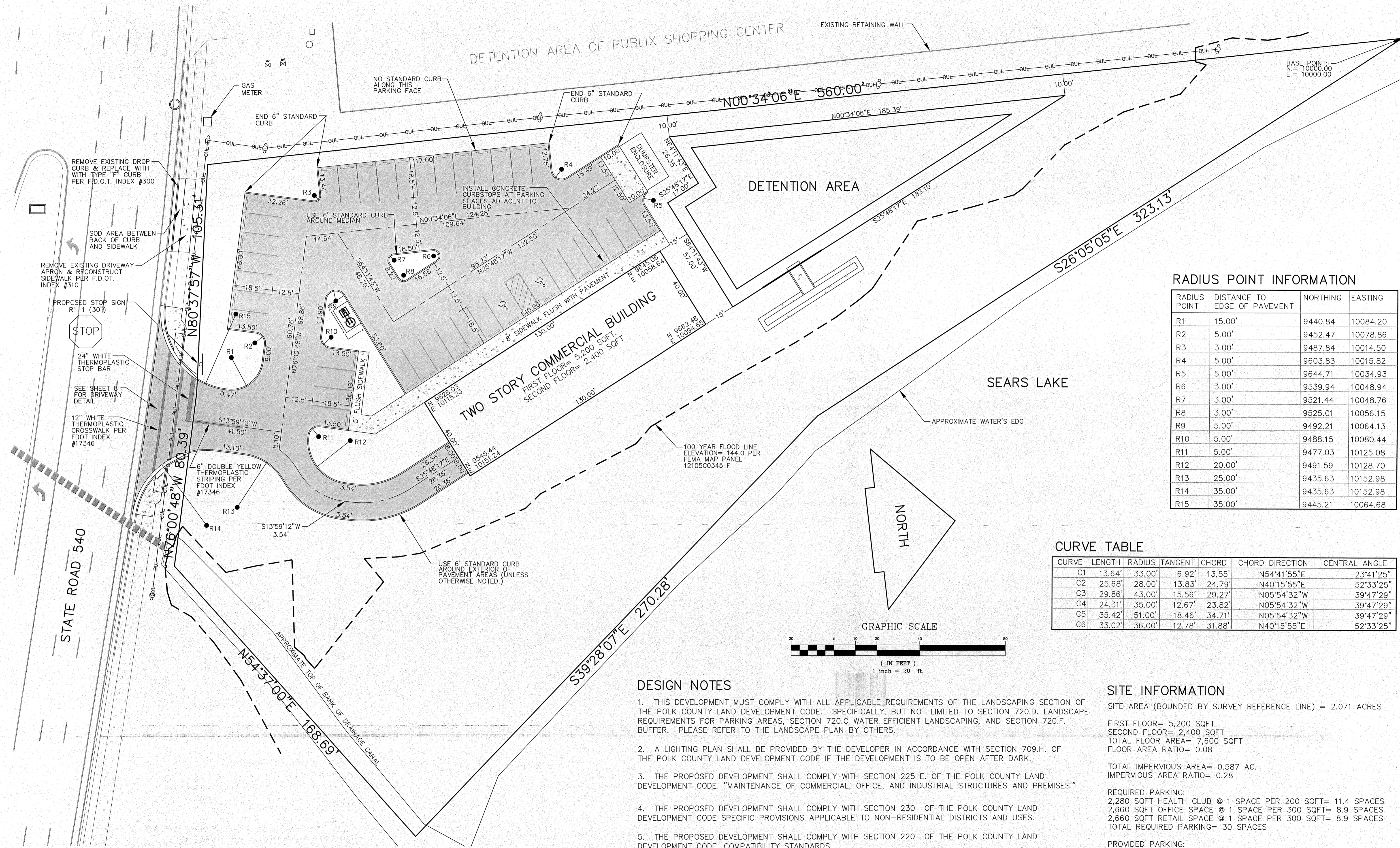
REVISION

ALPHA ENGINEERING & SURVEYING, INC.
 635 COMMERCE DRIVE
 LAKELAND, FLORIDA 33813
 (883) 646-8571 FAX 646-4877

BOUNDARY & TOPOGRAPHICAL SURVEY

BEMAN CENTER POLK COUNTY, FL

SECTION	36
TOWNSHIP	28 S.
RANGE	25 E.
DWG:	BNBY
SHEET NO.	3
OF 10 SHEETS	

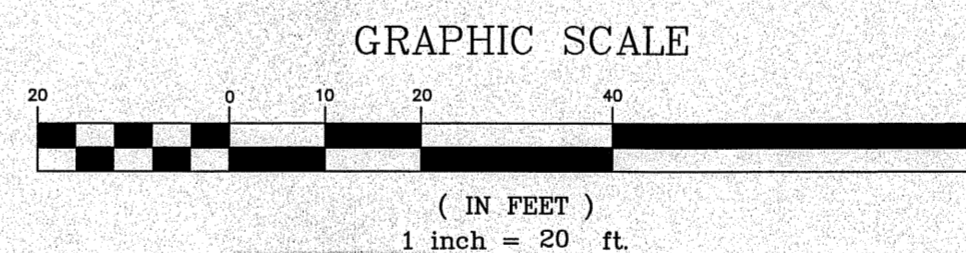


RADIUS POINT INFORMATION

RADIUS POINT	DISTANCE TO EDGE OF PAVEMENT	NORTHING	EASTING
R1	15.00'	9440.84	10084.20
R2	5.00'	9452.47	10078.86
R3	3.00'	9487.84	10014.50
R4	5.00'	9603.83	10015.82
R5	5.00'	9644.71	10034.93
R6	3.00'	9539.94	10048.94
R7	3.00'	9521.44	10048.76
R8	3.00'	9525.01	10056.15
R9	5.00'	9492.21	10064.13
R10	5.00'	9488.15	10080.44
R11	5.00'	9477.03	10125.08
R12	20.00'	9491.59	10128.70
R13	25.00'	9435.63	10152.98
R14	35.00'	9435.63	10152.98
R15	35.00'	9445.21	10064.68

CURVE TABLE

CURVE	LENGTH	RADIUS	TANGENT	CHORD	CHORD DIRECTION	CENTRAL ANGLE
C1	13.64'	33.00'	6.92'	13.55'	N54°41'55"E	23°41'25"
C2	25.68'	28.00'	13.83'	24.79'	N40°15'55"E	52°33'25"
C3	29.86'	43.00'	15.56'	29.27'	N05°54'32"W	39°47'29"
C4	24.31'	35.00'	12.67'	23.82'	N05°54'32"W	39°47'29"
C5	35.42'	51.00'	18.46'	34.71'	N05°54'32"W	39°47'29"
C6	33.02'	36.00'	12.78'	31.88'	N40°15'55"E	52°33'25"



DESIGN NOTES

1. THIS DEVELOPMENT MUST COMPLY WITH ALL APPLICABLE REQUIREMENTS OF THE LANDSCAPING SECTION OF THE POLK COUNTY LAND DEVELOPMENT CODE. SPECIFICALLY, BUT NOT LIMITED TO SECTION 720.D. LANDSCAPE REQUIREMENTS FOR PARKING AREAS, SECTION 720.C WATER EFFICIENT LANDSCAPING, AND SECTION 720.F. BUFFER. PLEASE REFER TO THE LANDSCAPE PLAN BY OTHERS.
2. A LIGHTING PLAN SHALL BE PROVIDED BY THE DEVELOPER IN ACCORDANCE WITH SECTION 709.H. OF THE POLK COUNTY LAND DEVELOPMENT CODE IF THE DEVELOPMENT IS TO BE OPEN AFTER DARK.
3. THE PROPOSED DEVELOPMENT SHALL COMPLY WITH SECTION 225 E. OF THE POLK COUNTY LAND DEVELOPMENT CODE. "MAINTENANCE OF COMMERCIAL, OFFICE, AND INDUSTRIAL STRUCTURES AND PREMISES."
4. THE PROPOSED DEVELOPMENT SHALL COMPLY WITH SECTION 230 OF THE POLK COUNTY LAND DEVELOPMENT CODE SPECIFIC PROVISIONS APPLICABLE TO NON-RESIDENTIAL DISTRICTS AND USES.
5. THE PROPOSED DEVELOPMENT SHALL COMPLY WITH SECTION 220 OF THE POLK COUNTY LAND DEVELOPMENT CODE, COMPATIBILITY STANDARDS.
6. RESTORE RIGHT OF WAY, INCLUDING EXISTING DRIVEWAYS, MAILBOXES, LANDSCAPING, ETC. TO PRE-CONSTRUCTION CONDITIONS. CONTRACTOR SHALL DOCUMENT EXISTING CONDITIONS BY PROVIDING VIDEO TAPE OF EXISTING ROADWAY CORRIDOR.

SITE INFORMATION

SITE AREA (BOUNDED BY SURVEY REFERENCE LINE) = 2.071 ACRES

FIRST FLOOR= 5,200 SQFT
 SECOND FLOOR= 2,400 SQFT
 TOTAL FLOOR AREA= 7,600 SQFT
 FLOOR AREA RATIO= 0.08

TOTAL IMPERVIOUS AREA= 0.587 AC.
 IMPERVIOUS AREA RATIO= 0.28

REQUIRED PARKING:
 2,280 SQFT HEALTH CLUB @ 1 SPACE PER 200 SQFT= 11.4 SPACES
 2,660 SQFT OFFICE SPACE @ 1 SPACE PER 300 SQFT= 8.9 SPACES
 2,660 SQFT RETAIL SPACE @ 1 SPACE PER 300 SQFT= 8.9 SPACES
 TOTAL REQUIRED PARKING= 30 SPACES

PROVIDED PARKING:
 35- 9'x18.5' STANDARD PARKING SPACE
 2- 12'x18.5' VAN ACCESSIBLE HANDICAP SPACES
 37 TOTAL PROVIDED SPACES

SEAL

RYAN M. LASER
 P.E. #27517
 CERTIFICATE OF AUTHORIZATION #022
 DATE: 06/21/2008

DRAWN BY: R.M.L.
 DATE: 08/03/07

REVISION
 (1) MAIL 12/06/07 PER POLK COUNTY DAC
 (2) MAIL 01/22/08 CONNECT TO EXISTING DRIVE
 (3) MAIL 07/09/08 PER POLK COUNTY RECORDS

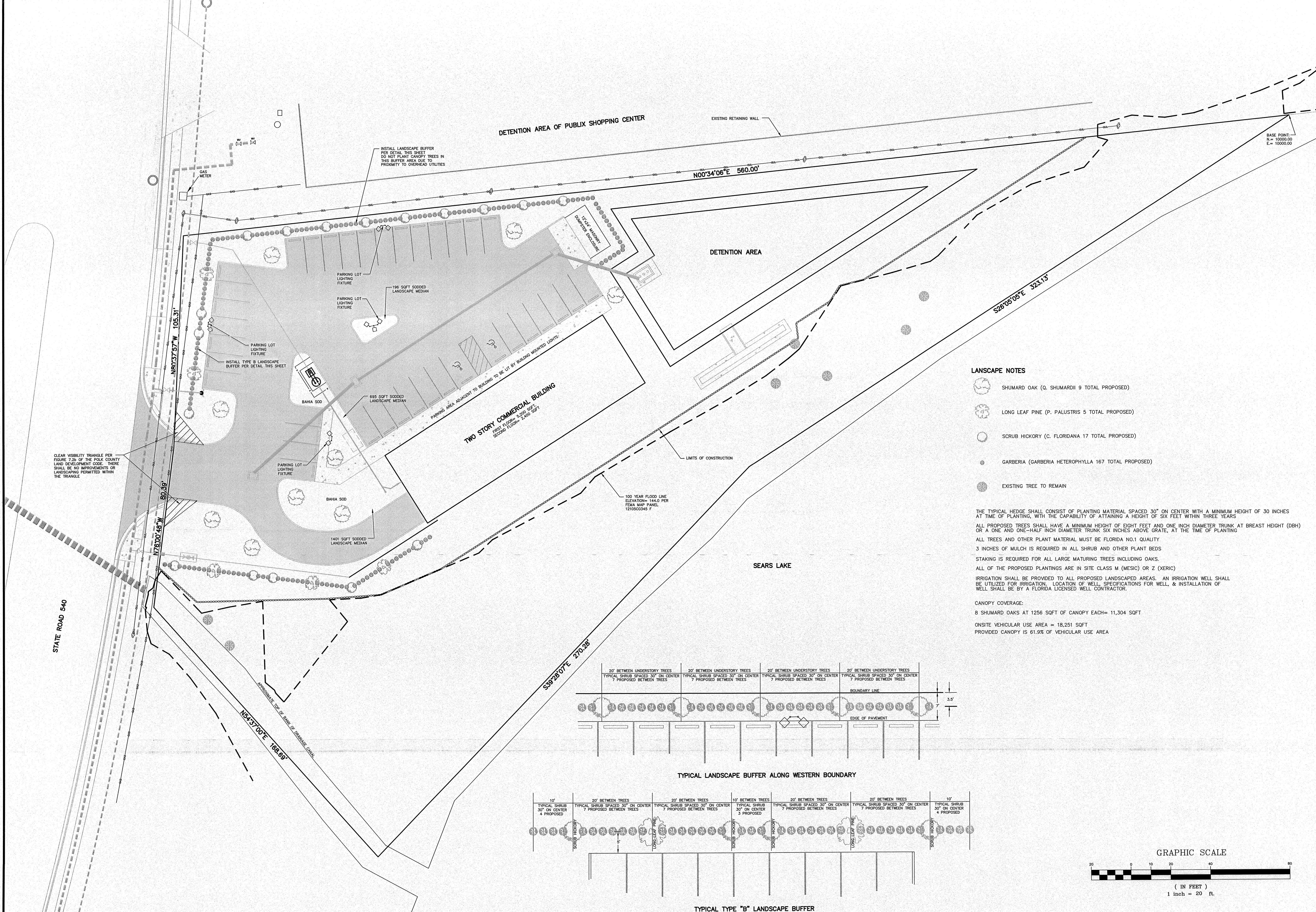
ALPHA ENGINEERING & SURVEYING, INC.
 500 W. UNIVERSITY BLVD., SUITE 300
 TAMPA, FLORIDA 33603
 (813) 646-8571 FAX 646-4877

MASTER SITE PLAN

BEMMAN CENTER
 POLK COUNTY, FL

18869

SECTION	36
TOWNSHIP	28 S.
RANGE	25 E.
DWG.	GENERAL PLAN
SHEET NO.	4
OF	10 SHEETS



LANDSCAPE NOTES

- SHUMARD OAK (Q. SHUMARDII 9 TOTAL PROPOSED)
- LONG LEAF PINE (P. PALUSTRIS 5 TOTAL PROPOSED)
- SCRUB HICKORY (C. FLORIDANA 17 TOTAL PROPOSED)
- GARBERIA (GARBERIA HETEROPHYLLA 167 TOTAL PROPOSED)
- EXISTING TREE TO REMAIN

THE TYPICAL HEDGE SHALL CONSIST OF PLANTING MATERIAL SPACED 30" ON CENTER WITH A MINIMUM HEIGHT OF 30 INCHES AT TIME OF PLANTING, WITH THE CAPABILITY OF ATTAINING A HEIGHT OF SIX FEET WITHIN THREE YEARS

ALL PROPOSED TREES SHALL HAVE A MINIMUM HEIGHT OF EIGHT FEET AND ONE INCH DIAMETER TRUNK AT BREAST HEIGHT (DBH) OR A ONE AND ONE-HALF INCH DIAMETER TRUNK SIX INCHES ABOVE GRATE, AT THE TIME OF PLANTING

ALL TREES AND OTHER PLANT MATERIAL MUST BE FLORIDA NO.1 QUALITY

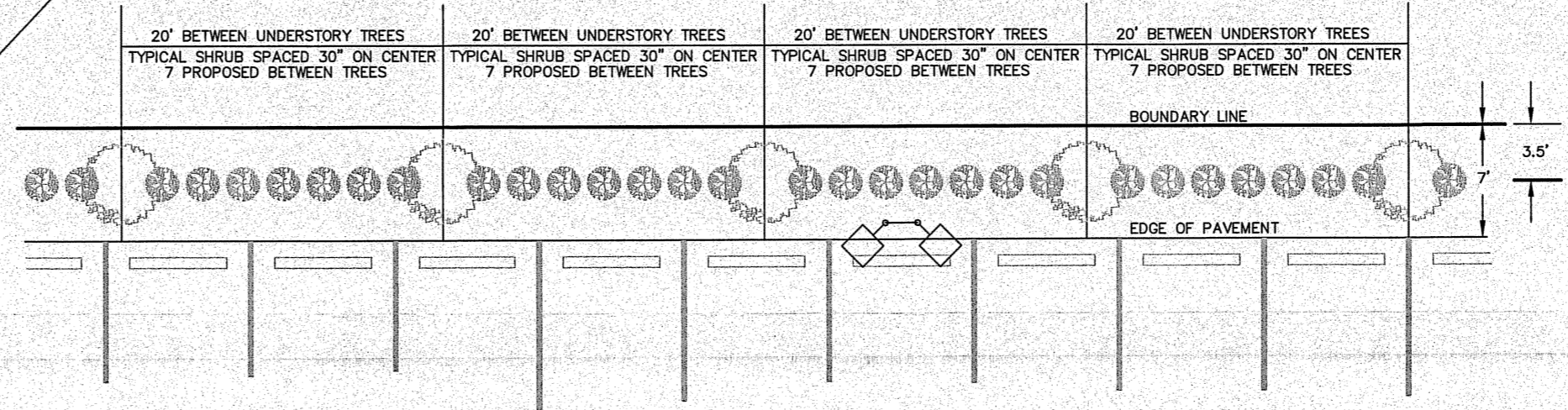
3 INCHES OF MULCH IS REQUIRED IN ALL SHRUB AND OTHER PLANT BEDS

STAKING IS REQUIRED FOR ALL LARGE MATURING TREES INCLUDING OAKS.

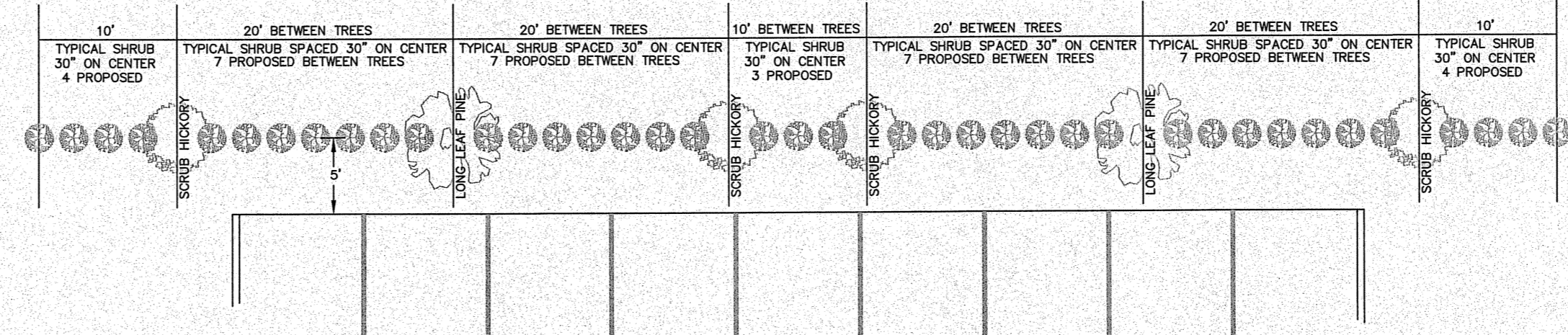
ALL OF THE PROPOSED PLANTINGS ARE IN SITE CLASS M (MESIC) OR Z (XERIC)

IRRIGATION SHALL BE PROVIDED TO ALL PROPOSED LANDSCAPED AREAS. AN IRRIGATION WELL SHALL BE UTILIZED FOR IRRIGATION. LOCATION OF WELL, SPECIFICATIONS FOR WELL, & INSTALLATION OF WELL SHALL BE BY A FLORIDA LICENSED WELL CONTRACTOR.

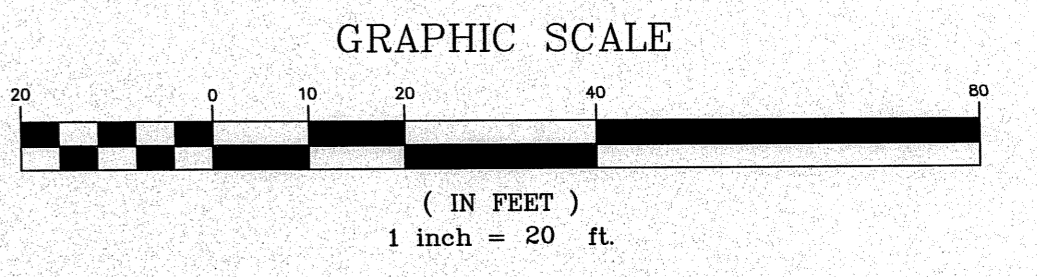
CANOPY COVERAGE:
 8 SHUMARD OAKS AT 1256 SQFT OF CANOPY EACH= 11,304 SQFT
 ONSITE VEHICULAR USE AREA = 18,251 SQFT
 PROVIDED CANOPY IS 61.9% OF VEHICULAR USE AREA



TYPICAL LANDSCAPE BUFFER ALONG WESTERN BOUNDARY



TYPICAL TYPE "B" LANDSCAPE BUFFER



RYAN M. LAZARUS
 P.E. #27517
 CERTIFICATE OF AUTHORIZATION #1022

DRAWN BY: R.M.L.
 DATE: 06/03/20

REVISION
 (1) MAIL 12/20/07 PER POLK COUNTY O&C
 (2) MAIL 4/25/08 PER POLK COUNTY PLANNING DIVISION
 (3) MAIL 07/16/08 PER FOOT BRIDGEWAY RELOCATION

ALPHA
 ENGINEERING &
 SURVEYING, INC.
 625 COMMERCE DRIVE, SUITE 104
 GAITHERSBURG, MD 20878

**LANDSCAPE &
 LIGHTING PLAN**

**BEMMAN CENTER
 POLK COUNTY, FL**

18869

SECTION 36
 TOWNSHIP 28
 RANGE 25

DWG: GENERAL PL

SHEET NO.

5

OF 10 SHEETS

PUBLIX SHOPPING CENTER

EXISTING RETAINING WALL
(PART OF PUBLIX DETENTION POND)

INLET-3: TYPE "F"
GRATE ELEV.= 146.25
INVERT ELEV.= 141.32

44'-18" RCP
SLOPE= 0.17%

N00°34'06"E 560.00'

POND-100
TOP ELEVATION= 146.25
TOP AREA= 7,808.34 SQ.FT.
BOTTOM ELEV.= 144.75
BOTTOM AREA= 5,248.97 SQ.FT.

TYPE "H" INLET (NO GRATE)
TOP ELEV.= 145.00
INVERT ELEV.= 141.25
CONSTRUCT 10"x15" CONCRETE
AT ELEV.= 144.75
DRILL THREE - 12" DIAMETER HOLES
IN BASE OF H-INLET. BACKFILL
HOLES WITH No 57 STONE TO
PROMOTE INFILTRATION

8" PVC MITERED
TO SLOPE
F.L.= 144.75

8" WYE

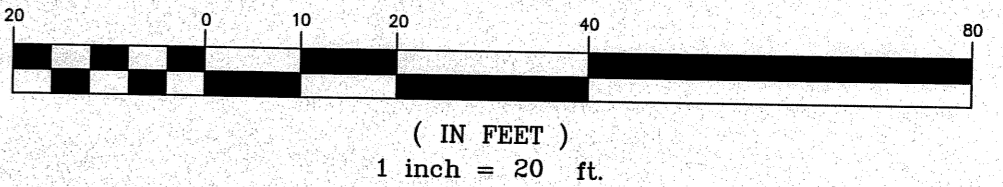
8" CLEANOUT
CAP ELEV.= 146.25
F.L.= 144.85

100 YEAR FLOOD LINE
ELEVATION= 144.0 PER
FEMA MAP PANEL
12105C0345 F

TO PREVENT FLOOD PLAIN
IMPACTS, NO CONSTRUCTION
ACTIVITIES SHALL BE PERMITTED
BEYOND THE PROPOSED SILT
FENCE LOCATION

BASE POINT:—
N.= 10000.00
E.= 10000.00

GRAPHIC SCALE



GENERAL CONSTRUCTION NOTES:

- 1. PRIOR TO ANY CLEARING OR CONSTRUCTION COMMENCEMENT SILT FENCES SHALL BE INSTALLED IN THE AREAS DESIGNATED ON THIS PLAN. IN ADDITION THOSE AREAS DESIGNATED TO BE REINFORCED SHALL INSTALL HAYBALES UPRIFF OF THE SILT FENCE. THE SILT FENCES SHALL BE TRENCHED IN 4 INCHES DEEP AND BACKFILLED ON THE UPRIFF SIDE. THE HAYBALES SHALL ALSO BE TRENCHED IN 4 INCHES AND STAKED WITH AT LEAST TWO 2"x2" WOODEN STAKES.
2. AFTER SILT FENCES AND PERIMETER EROSION PROTECTION IS INSTALLED A ROCK CONSTRUCTION ENTRANCE 75 FOOT LONG WITH 6 INCH DEEP FDOT#1 STONE LINED WITH FILTER FABRIC SHALL BE CONSTRUCTED AT EACH CONSTRUCTION ENTRANCE.
3. BEFORE ANY MASS CLEARING GRUBBING, OR EARTHWORK OPERATIONS COMMENCE THE RETENTION POND SHOWN ON THIS PLANS SHALL BE CONSTRUCTED AND SLOPES SODDED AS SHOWN ON THE CONSTRUCTION DRAWINGS. IN ADDITION ALL PERIMETER BASIN CONTROLS, SUCH AS SWALES AND DITCHES SHALL ALSO BE CONSTRUCTED AND STABILIZED WITH SOD AS SHOWN ON THIS PLAN.
4. DEWATERING OF GROUNDWATER TO CONSTRUCT THE RETENTION POND SHALL NOT BE ALLOWED WITHOUT APPROVAL OF A DEWATERING PLAN FROM THE SOUTHWEST FLORIDA WATER MANAGEMENT DISTRICT.
5. DURING CLEARING AND GRUBBING AND SITE GRADING STAGES, AREAS THAT ARE DISTURBED AND WAITING FOR MORE THAN 7 DAYS SHALL BE STABILIZED WITH RYE GRASS APPLIED AT MANUFACTURERS RECOMMENDATIONS. AFTER SEEDING EACH AREA SHALL BE MULCHED WITH 4000 POUNDS OF STRAW PER ACRE.
6. RESTORE RIGHT OF WAY, INCLUDING EXISTING DRIVEWAYS, MAILBOXES, LANDSCAPING, ETC. TO PRE-CONSTRUCTION CONDITIONS. CONTRACTOR SHALL DOCUMENT EXISTING CONDITIONS BY PROVIDING VIDEO TAPE OF EXISTING ROADWAY CORRIDOR.

PERMANENT STORM WATER MANAGEMENT CONTROLS

- 1. DETENTION AREA SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE RECEIVED ENVIRONMENTAL RESOURCE PERMIT
2. UNDISTURBED UPLANDS VEGETATIVE BUFFERS SHALL REMAIN IN ALL AREAS SHOWN ON THIS PLAN.

POLLUTION CONTROL

- 1. ALL CLEARED TREES AND VEGETATION SHALL BE BURNED ONSITE AFTER CONTRACTOR OBTAINS A BURN PERMIT.
2. ALL CONSTRUCTION MATERIALS AND DEBRIS WILL BE PLACED IN A DUMPSTER AND HAILED OFF SITE TO A LANDFILL OR OTHER PROPER DISPOSAL.
3. DUST SHALL BE CONTROLLED WITH THE USE OF WATER IF NECESSARY.
4. ALL TOXIC MATERIALS USED IN CONSTRUCTION SHALL BE KEPT IN A COVERED SHED.
5. A DOUBLE WALL FUEL TANK WILL BE PLACED ON A DRIP PAN TO CONTAIN AND PREVENT ANY FUEL LEAKS FROM BEING DISCHARGED IN STORM WATER RUNOFF.
6. PORT-O-LETS SHALL BE PLACED IN DESIGNATED AREAS BY THE CONTRACTOR.
7. NO VEHICLE MAINTENANCE WILL BE ALLOWED ON SITE.
8. A WASHDOWN SITE SHALL BE PLACED IN THE AREAS DESIGNATED. AS SMALL VEGETATIVE BERM SHALL BE PLACED AROUND THE WASH DOWN AREA.
9. FILTER FABRIC AND HAYBALES SHALL BE PLACED AT THE ENTRANCE TO ALL INLETS TO PREVENT THE STORM SEWER SYSTEM FROM DISCHARGING SEDIMENTS INTO THE RETENTION PONDS.

MAINTENANCE PLAN

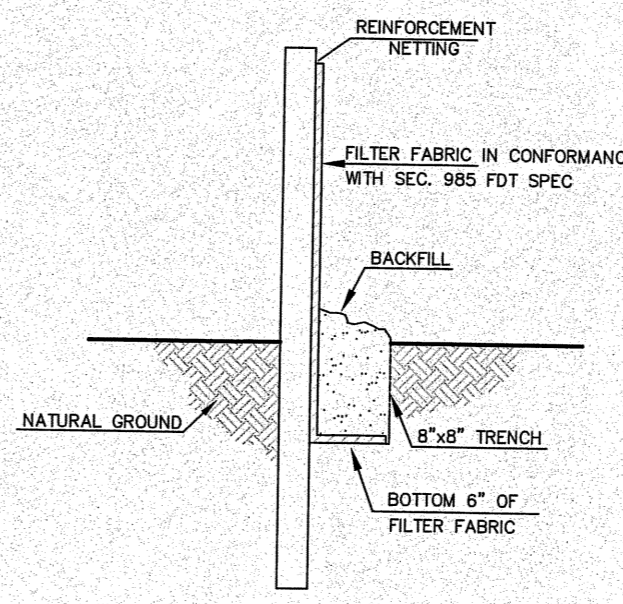
- 1. SILT FENCES SHALL BE INSPECTED AT LEAST WEEKLY. ANY REQUIRED REPAIRS SHALL BE MADE IMMEDIATELY. SEDIMENT DEPOSITS SHALL BE REMOVED WHEN THEY REACH APPROXIMATELY ONE HALF THE HEIGHT OF THE BARRIER.
2. MAINTENANCE SHALL BE PERFORMED ON THE ROCK ENTRANCE WHEN ANY VOID SPACES ARE FULL OF SEDIMENT.
3. HAYBALES SHALL BE USED IN AREAS WHERE EFFECTIVENESS IS REQUIRED FOR LESS THAN 3 MONTHS. INSPECTION OF HAYBALES SHALL BE ON THE SAME SCHEDULE AS SILT FENCES.
4. INLETS AND OUTFALLS SHALL BE INSPECTED IMMEDIATELY AFTER EACH RAIN EVENT AND ANY REPAIRS NECESSARY SHALL BE MADE IMMEDIATELY.
5. BARE AREAS OF THE SITE THAT WERE PREVIOUSLY SEEDED SHALL BE RESEED PER MANUFACTURERS INSTRUCTIONS.
6. MULCH AND SOD THAT HAS WASHED OUT SHALL BE REPLACED IMMEDIATELY.
7. ANY WASH OUTS GOING INTO RETENTION PONDS SHALL BE CORRECTED BY INSTALL A TEMPORARY BERM UPRIFF AND BERM AND THROUGH THE BERM INTO RETENTION POND. PIPE AND BERM SHALL BE REMOVED WHEN SURROUNDING GROUND IS PERMANENTLY STABILIZED.

INSPECTION PLAN

- 1. THE CONTRACTOR/ OWNER MUST FURNISH A LIST OF WHO WILL BE IMPLEMENTING THE ABOVE PROCEDURES ON HIS / THEIR BEHALF. EACH PERSON MUST SIGN A CERTIFICATION THAT CERTIFIES THEY UNDERSTAND AND SHALL COMPLY WITH THE TERMS AND CONDITIONS OF THE STATE OF FLORIDA GENERIC PERMIT FOR STORM WATER DISCHARGE FROM LARGE AND SMALL CONSTRUCTION ACTIVITIES AND THIS STORM WATER POLLUTION PREVENTION PLAN.
2. INSPECTIONS SHALL BE PERFORMED AT LEAST ONCE A WEEK AND WITHIN 24 HOURS OF THE END OF A RAIN EVENT THAT IS 0.5 INCHES OR GREATER.
3. THE INSPECTOR SHALL INSPECT ALL POINTS OF DISCHARGE, ALL DISTURBED AREAS OF CONSTRUCTION THAT HAVE NOT BEEN STABILIZED, AREAS WHERE VEHICLES ENTER AND EXIT THE SITE AT LEAST ONE A WEEK OR WITHIN 24 HOURS OF THE END OF RAIN EVENT GREATER THAN 0.5 INCHES.
4. THE INSPECTOR SHALL FURNISH A STORM WATER POLLUTION PREVENTION PLAN INSPECTION REPORT FORM IN THE FORMAT DESCRIBED IN THE "SAMPLE COPY" OF THE STORM WATER POLLUTION PREVENTION PLAN AS OUTLINED ON THE FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION WEBSITE.

SILT FENCE DETAIL REFER TO F.D.O.T. INDEX 102

POST OPTIONS: SOFTWOOD 2"x4" HARDWOOD 1.5"x1.5" STEEL 1.33 LBS/FT MINIMUM POST EMBEDMENT INTO NATURAL GROUND = 12"



SEARS LAKE

APPROXIMATE WATER'S EDGE OF LAKE SEARS

TWO STORY COMMERCIAL BUILDING
FIRST FLOOR FINISHED FLOOR ELEVATION= 147.50

INLET-2: TYPE "F"
GRATE ELEV.= 146.29
INVERT ELEV.= 141.55

117'-15" RCP
SLOPE= 0.20%

68'-15" RCP
SLOPE= 0.20%

8" CLEANOUT
CAP ELEV.= 147.0±
F.L.= 146.67

INSTALL SILT FENCE
PER DETAIL THIS SHEET

DEVELOPER'S CERTIFICATION

I HAVE OBSERVED AND UNDERSTAND THE EROSION CONTROL MEASURES DEPICTED AND DETAILED ON THIS SHEET OF THE CONSTRUCTION DOCUMENTS

ROBERT BEMMAN, OWNER DATE

POST DEVELOPMENT BASIN:
TOTAL AREA= 1.192 AC.
BUILDING AREA = 0.119 AC.
ALL OTHER IMPERVIOUS AREA= 0.477 AC.
AVERAGE DETENTION = 0.150 AC.
PERVIOUS OPEN SPACE = 0.446 AC.

COMPOSITE CURVE NUMBER = 89.3
TIME OF CONCENTRATION = 10.0 MIN.

TREATMENT VOLUME = 0.5 INCHES OVER BASIN AREA
= 5" x (1FT/12") x (1.192 AC.) x (43,560 SQFT/AC.) = 2,164 CU-FT.

LEGEND

- POST DEVELOPMENT BASIN BOUNDARY
EXISTING GROUND CONTOUR
PROPOSED FINISHED GROUND CONTOUR
SILT FENCE
FLOWLINE OF INVERTED CROWN
PROPOSED PAVEMENT ELEVATION

REMOVE EXISTING DROP CURB & REPLACE WITH TYPE "F" CURB PER F.D.O.T. INDEX #300

SOD AREA BETWEEN BACK OF CURB AND SIDEWALK

REMOVE EXISTING DRIVEWAY APRON & RECONSTRUCT SIDEWALK PER F.D.O.T. INDEX #310

STATE ROAD 540

N80°37'57"W 105.31'

N76°20'48"W 80.39'

N76°20'48"W 80.39'

N54°5'7.00"E 168.69'

S39°28'07"E 270.28'

S26°05'05"E 323.13'

NORTH

RYAN M. LAZARUS
P.E. #57517
CERTIFICATE OF AUTHORIZATION #1022
DATE: 10/21/2008

DRAWN BY: R.M.L.
DATE: 08/03/07

REVISION
BY: R.M.L. 10/26/07 PER POLK COUNTY D.A.C.
TO: RAIL 10/25/07 PER CONNEX TO EXISTING DRIVE
BY: R.M.L. 07/26/06 PER FOOT DRIVEWAY WIDENING

ALPHA
ENGINEERING &
SURVEYING, INC.
625 COMMERCE DRIVE, SUITE 104
LAKELAND, FLORIDA 33813
(888) 646-8571 FAX 646-4977

DRAINAGE AND
GRADING PLAN

BEMMAN CENTER
POLK COUNTY, FL

18869

SECTION 36
TOWNSHIP 28 S.
RANGE 25 E.

DWG: GENERAL PLAN

SHEET NO.

6

OF 10 SHEETS

DETENTION AREA OF PUBLIX SHOPPING CENTER

N00°34'06"E 560.00'

DETENTION AREA

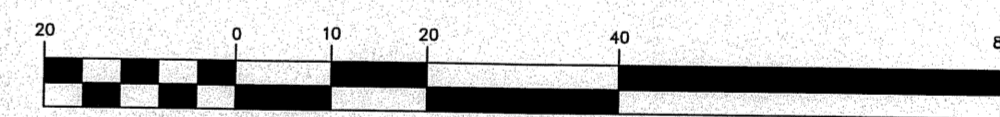
S28°05'05"E 323.13'

TWO STORY COMMERCIAL BUILDING
FIRST FLOOR = 2,200 SQ. FT.
SECOND FLOOR = 2,400 SQ. FT.

SEARS LAKE

NORTH

GRAPHIC SCALE



(IN FEET)
1 inch = 20 ft.

UTILITY NOTES

1. ALL VALVES, SERVICES, FITTINGS, HYDRANTS, ETC. ARE NOT DRAWN TO SCALE BUT ARE SHOWN FOR SCHEMATIC PURPOSES ONLY. FOR PROPER INSTALLATION DETAILS SEE WATER, SEWER, AND REUSE DETAILS AND SPECIFICATIONS.
2. THE WATER DISTRIBUTION SYSTEM DEPICTED HEREON SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE LATEST STANDARDS OF THE POLK COUNTY UTILITIES DIVISION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CONSTRUCTING THE WATER DISTRIBUTION SYSTEM ACCORDING TO THE ENGINEER'S DESIGN AND SAID POLK COUNTY SPECIFICATIONS AND PROCEDURES.
3. ALL PRESSURIZED PIPING SHALL BE POLY-PIGGED.
4. CONSTRUCTED MANHOLES WITH INVERT SEPARATIONS OF 2.0 FEET OR GREATER WILL REQUIRE A DROP CONNECTION.
5. WHERE SIDEWALKS ARE PROPOSED, THE WATER SERVICE & SANITARY SEWER LATERALS SHALL BE EXTENDED BEYOND THE SIDEWALK, WITHIN UTILITY EASEMENTS, SO THAT SIDEWALKS DO NOT CONFLICT WITH THE SAME.
6. ALL WATER MAIN FITTINGS SHALL BE D.I.P.
7. FINAL RECORD DRAWINGS SHALL BE PREPARED AND SUBMITTED IN ACCORDANCE WITH PCU TSSM SECTION 20.5 AND 30.18.4.
8. RESTORE RIGHT OF WAY, INCLUDING EXISTING DRIVEWAYS, MAILBOXES, LANDSCAPING, ETC. TO PRE-CONSTRUCTION CONDITIONS. CONTRACTOR SHALL DOCUMENT EXISTING CONDITIONS BY PROVIDING VIDEO TAPE OF EXISTING ROADWAY CORRIDOR.
9. A F.D.O.T. UTILITY PERMIT WILL BE REQUIRED TO INSTALL ANY IMPROVEMENTS WITHIN F.D.O.T. RIGHT OF WAY.
10. THE LOCATION OF THE EXISTING UTILITIES WITHIN AND ADJACENT TO S.R. 540 ARE BASED UPON THE AS-BUILT DRAWING FOR THE SR 540 ROADWAY IMPROVEMENTS BY KEITH & SCHNARS, P.A. DATED 08/03/02. THE CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATING ALL EXISTING UTILITIES PRIOR TO THE COMMENCEMENT OF CONSTRUCTION AND NOTIFYING THE ENGINEER OF ANY DISCREPANCIES WITH THE PERMITTED CONSTRUCTION DRAWINGS. ALPHA ENGINEERING AND/OR THE ENGINEER DOES NOT GUARANTEE THE LOCATION, SIZES, OR MATERIALS IDENTIFIED ON THIS PLAN WILL ACCURATELY REPRESENT EXISTING FIELD CONDITIONS.
11. MECHANICAL RESTRAINED JOINT PIPE AND FITTINGS AREA REQUIRED FOR ALL UNDERGROUND MAIN PIPING.

PIPE RESTRAINT

PIPE DIAMETER	D.I.P. (RESTRAIN LIMITS EACH SIDE OF FITTING)			
	22.5° BEND	45° BEND	90° BEND	DEAD END
4"	5'	10'	25'	35'
6"	7'	14'	35'	49'
8"	9'	19'	45'	64'
10"	11'	22'	54'	77'
12"	13'	26'	64'	90'

PIPE DIAMETER	P.V.C. (RESTRAIN LIMITS EACH SIDE OF FITTING)			
	22.5° BEND	45° BEND	90° BEND	DEAD END
4"	7'	14'	33'	55'
6"	9'	19'	46'	77'
8"	12'	25'	61'	101'
10"	15'	30'	73'	121'
12"	17'	35'	86'	143'

MECHANICAL RESTRAINED JOINT PIPE AND FITTINGS ARE REQUIRED UNDERGROUND MAIN PIPING.

IRRIGATION SHALL BE PROVIDED TO ALL PROPOSED LANDSCAPED AREAS. AN IRRIGATION WELL SHALL BE UTILIZED FOR IRRIGATION. LOCATION OF WELL, SPECIFICATIONS FOR WELL, & INSTALLATION OF WELL SHALL BE BY A FLORIDA LICENSED WELL CONTRACTOR.

CONNECT TO EXISTING FORCE MAIN BY WET TAP IN ACCORDANCE WITH POLK COUNTY UTILITY STANDARDS. CONTRACTOR SHALL SUBMIT SHOP DRAWINGS FOR FULL BODY SLEEVE AND TAPPING VALVE. TAP LOCATIONS MUST BE APPROVED IN FIELD AFTER PIPE IS EXPOSED. CONTRACTOR SHALL PROVIDE WRITTEN REQUEST WITH PROPOSED TIME AND DATE OF CONNECTION AT LEAST 5 WORKING DAYS IN ADVANCE OF PLANNED CONNECTION.

CONNECT TO EXISTING WATER MAIN BY WET TAP IN ACCORDANCE WITH POLK COUNTY UTILITY STANDARDS. CONTRACTOR SHALL SUBMIT SHOP DRAWINGS FOR FULL BODY SLEEVE AND TAPPING VALVE. TAP LOCATIONS MUST BE APPROVED IN FIELD AFTER PIPE IS EXPOSED. CONTRACTOR SHALL PROVIDE WRITTEN REQUEST WITH PROPOSED TIME AND DATE OF CONNECTION AT LEAST 5 WORKING DAYS IN ADVANCE.

EXISTING 12" HDPE POLK COUNTY WATER MAIN SEE NOTE #10

EXISTING 8" SANITARY SEWER POLK COUNTY FORCE MAIN SEE NOTE #10

CONNECT TO EXISTING WATER MAIN BY WET TAP IN ACCORDANCE WITH POLK COUNTY UTILITY STANDARDS. CONTRACTOR SHALL SUBMIT SHOP DRAWINGS FOR FULL BODY SLEEVE AND TAPPING VALVE. TAP LOCATIONS MUST BE APPROVED IN FIELD AFTER PIPE IS EXPOSED. CONTRACTOR SHALL PROVIDE WRITTEN REQUEST WITH PROPOSED TIME AND DATE OF CONNECTION AT LEAST 5 WORKING DAYS IN ADVANCE OF PLANNED CONNECTION.

CONSTRUCT 2" END OF PE SERVICE LINE CONFORMING TO AWWA C900 AND C901. BLUE IN COLOR AND INSTALLED 36" BELOW FINISHED GROUND.

APPROXIMATE LOCATION OF EXISTING GAS LINE SEE NOTE #10

2" PVC SCHEDULE 80 PRIVATE FORCE MAIN

PROPOSED 10' LANDSCAPE AND UTILITY EASEMENT

PRIVATE LIFT STATION SEE SHEET 9 OF 10

FIRE HYDRANT ASSEMBLY PER POLK COUNTY SPECIFICATIONS

TI INTO LIFT STATION AT ELEV. = 140.00

6" PVC C900 DR 35 SLOPE = 1.00% MIN.

PROPOSED GREASE TRAP LOCATION IF REQUIRED

CONNECT TO BUILDING PER ARCHITECTURAL DRAWINGS PROVIDE CLEANOUT WITHIN 5' OF BUILDING

6" WYE

CLEANOUT

8" - 45° BEND

CONNECT TO BUILDING PER ARCHITECTURAL DRAWINGS

2" - 90° BEND

100 YEAR FLOOD LINE ELEVATION = 144.0 PER FEMA MAP PANEL 121000045 F

2" REDUCED PRESSURE BACKFLOW PREVENTER PER POLK COUNTY SPECS

2" - 45° BEND

S38°28'07"E 270.28'

N64°37'00"E 168.89'

APPROXIMATE TOP OF BANK OF CHANGE CANAL

STATE ROAD 540

SEAL

RYAN M. LAZEBY
P.E. #57517
CERTIFICATE OF AUTHORIZATION #1022
DATE: 08/03/07

REVISION
(1) SHALL 12/06/07 PER POLK COUNTY D.A.C.
(2) SHALL 04/25/08 PER POLK COUNTY D.A.C.
(3) SHALL 07/15/08 PER FOOT DRIVEWAY REDUCTION

ALPHA ENGINEERING & SURVEYING, INC.
625 COMMERCE DRIVE, SUITE 104
LAKELAND, FLORIDA 33813
(883) 646-8571 FAX 646-4877

MASTER UTILITY PLAN

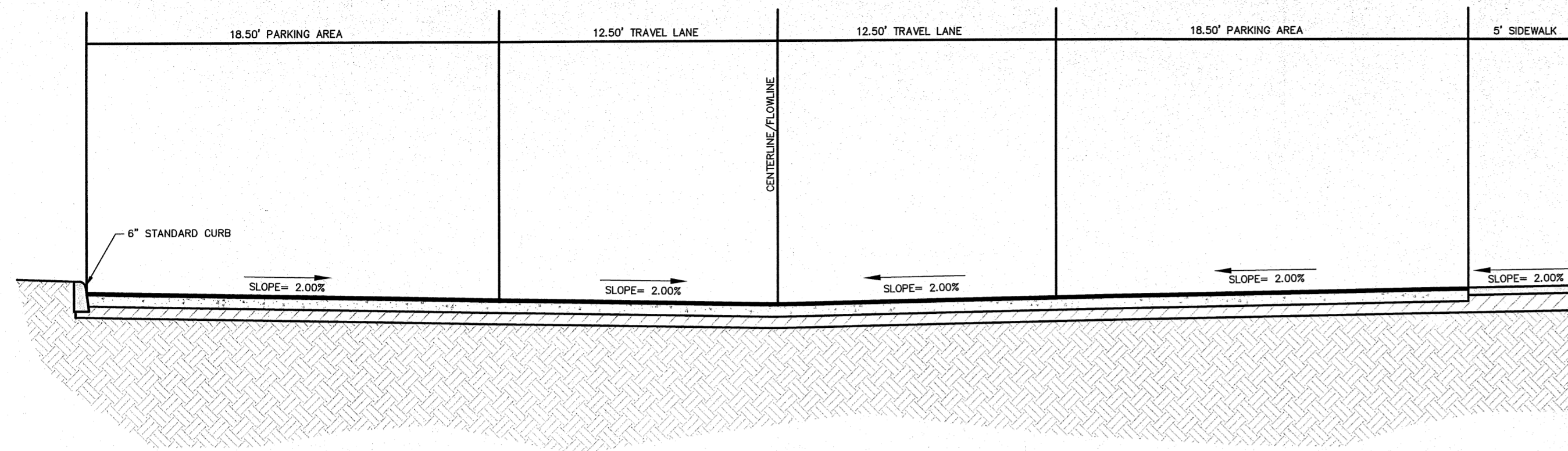
BEMMAN CENTER POLK COUNTY, FL

18869

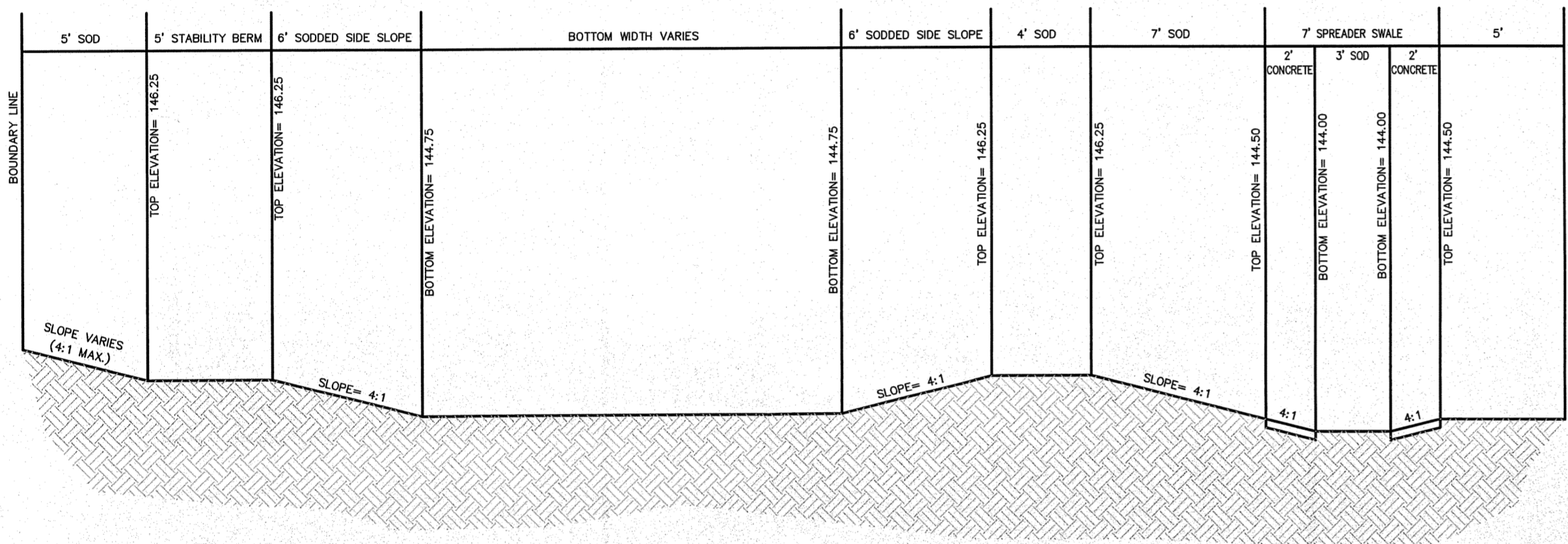
SECTION 36
TOWNSHIP 28 S.
RANGE 25 E.

DWG: GENERAL PLAN

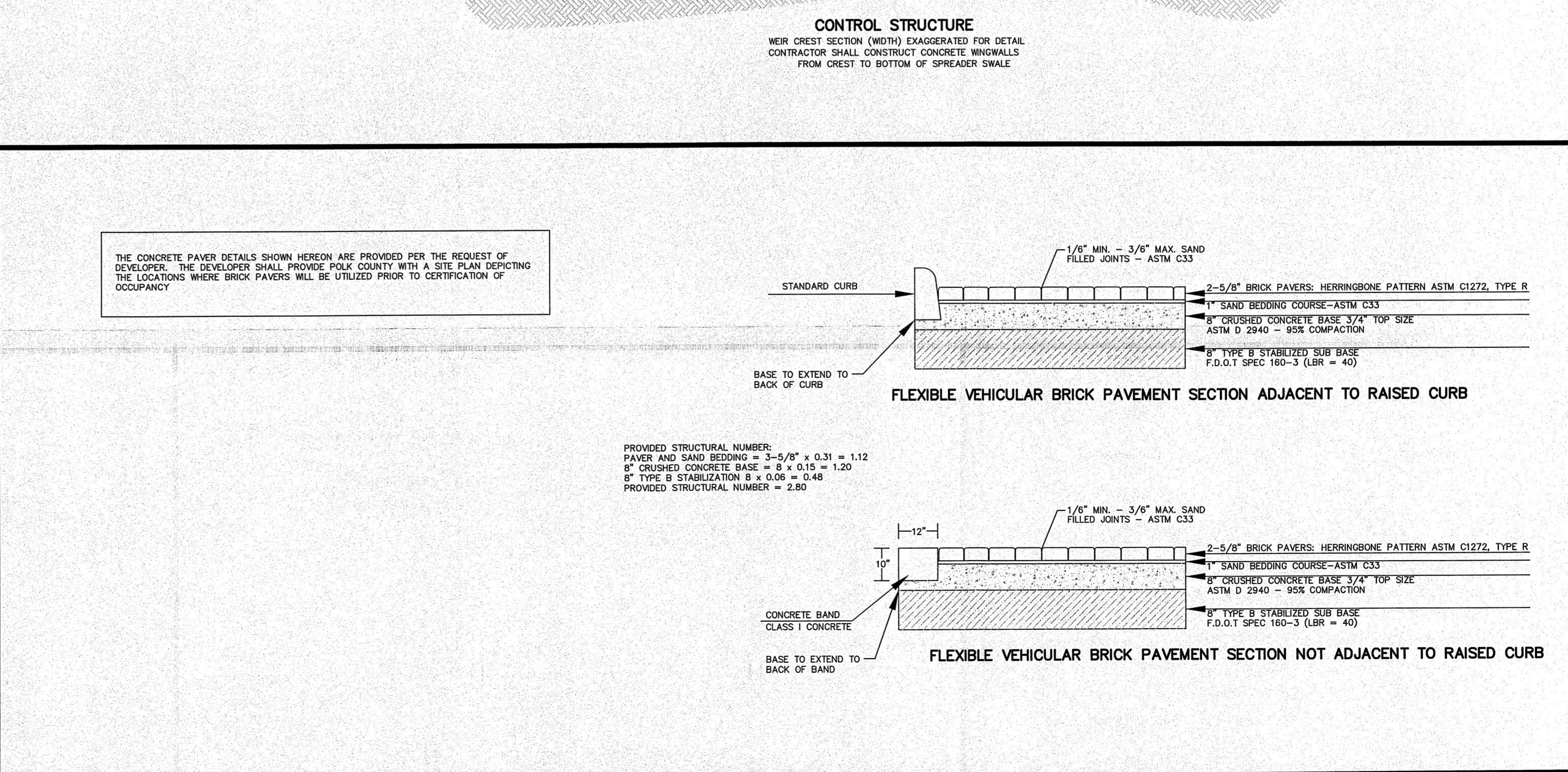
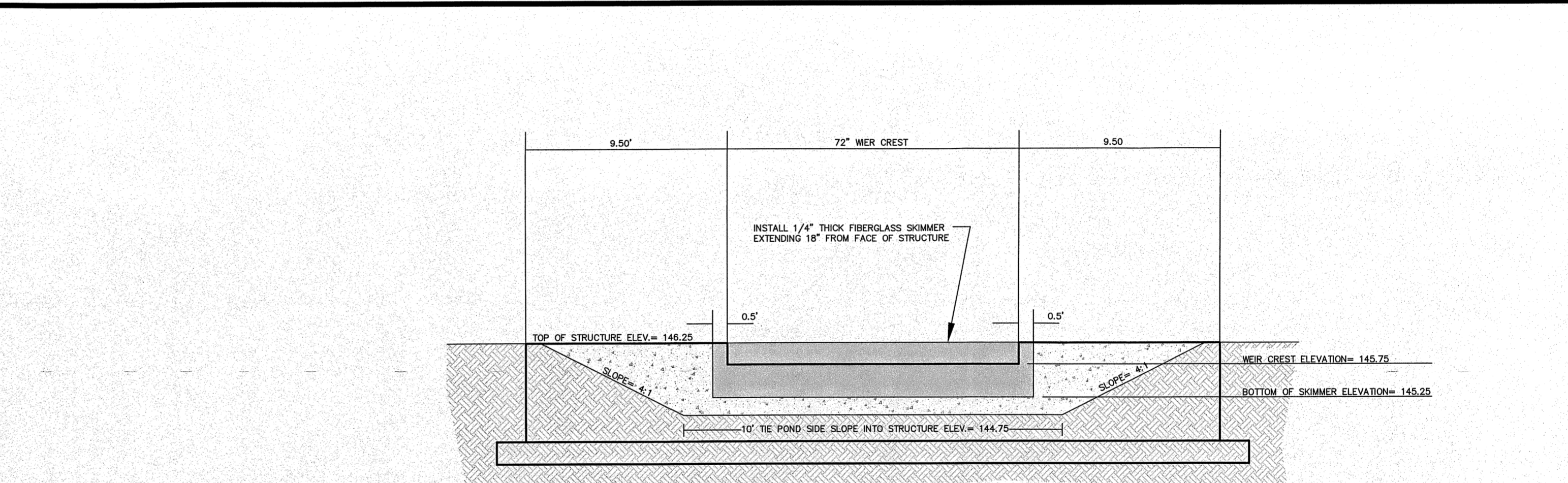
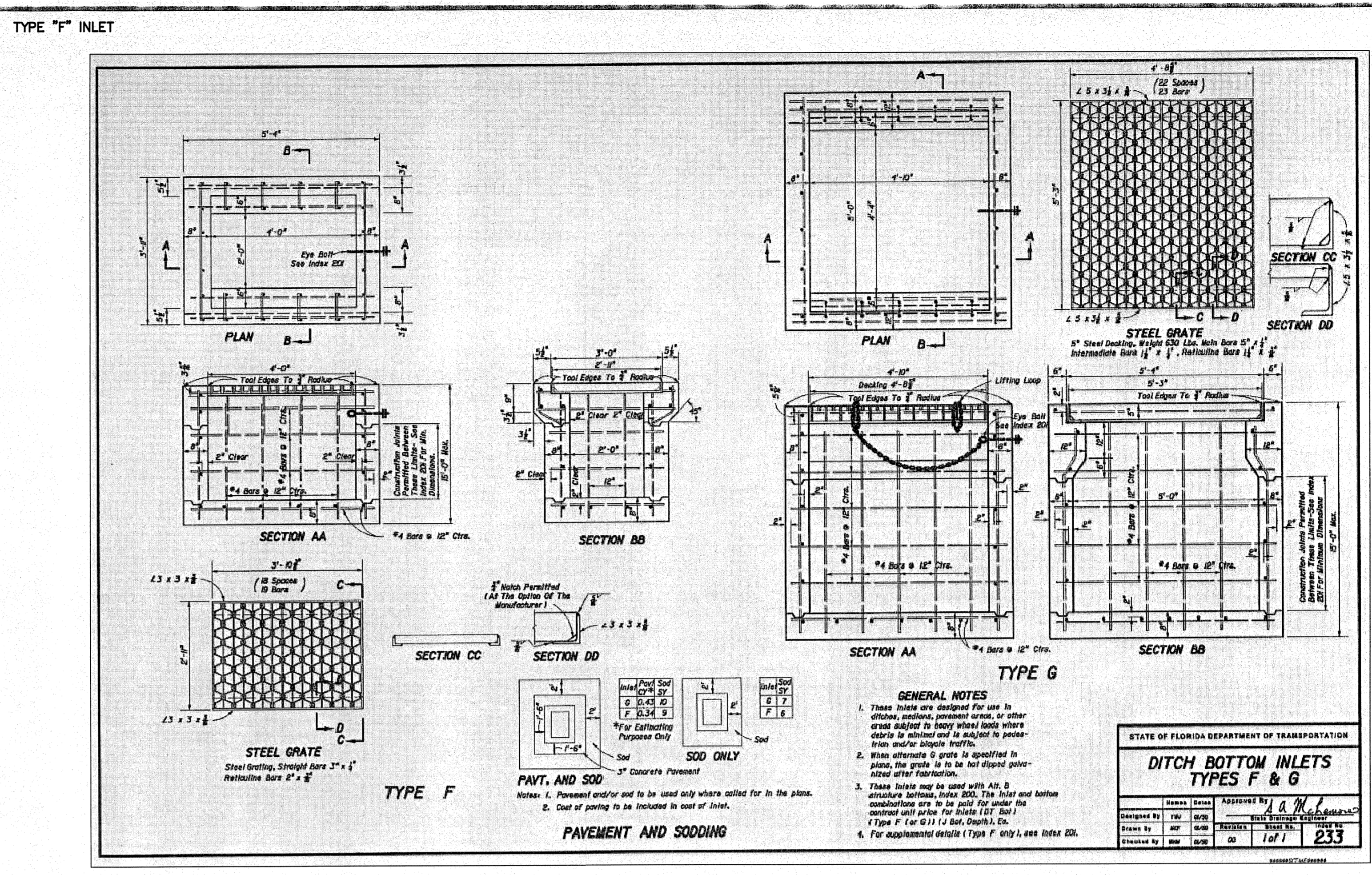
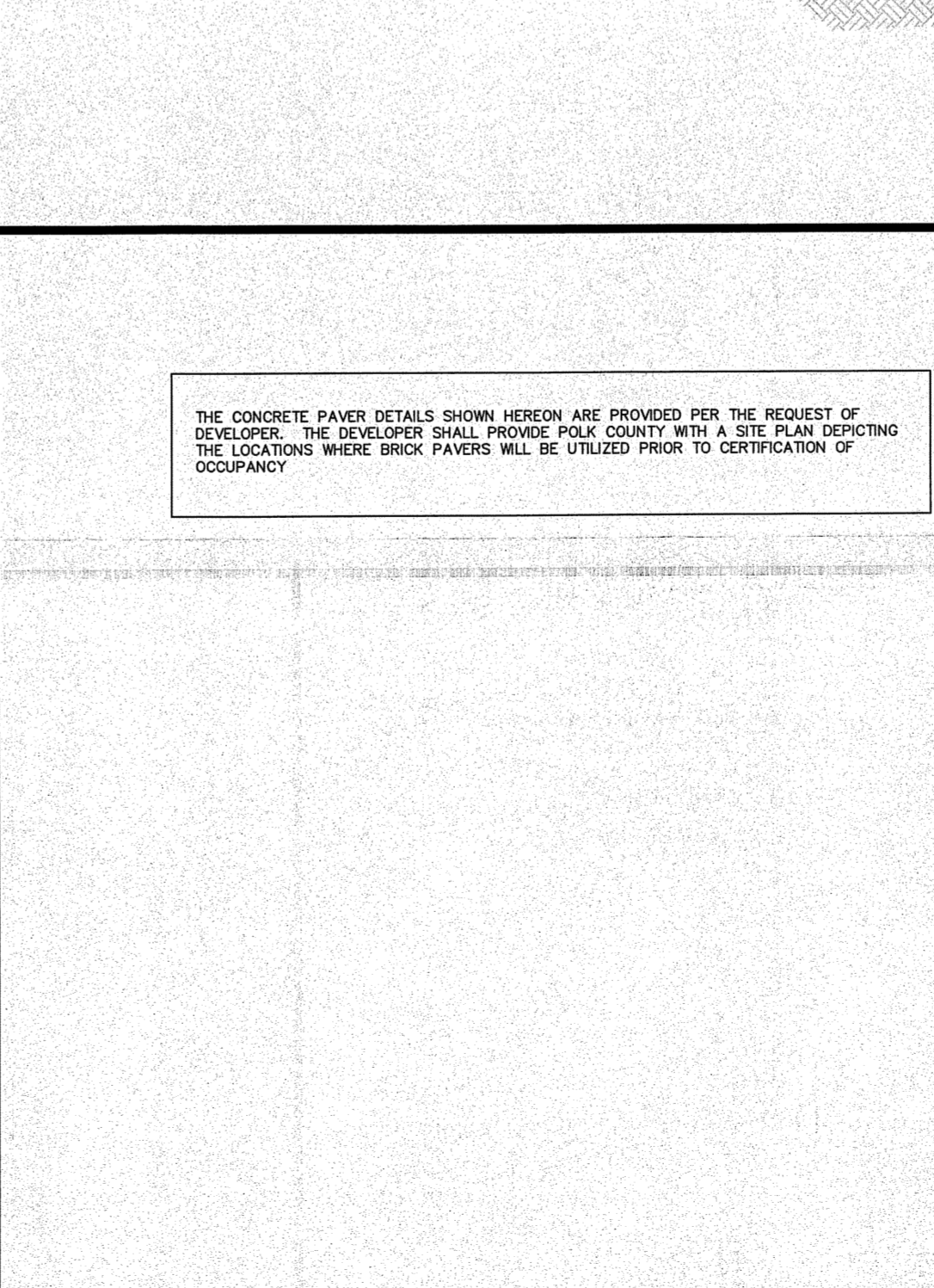
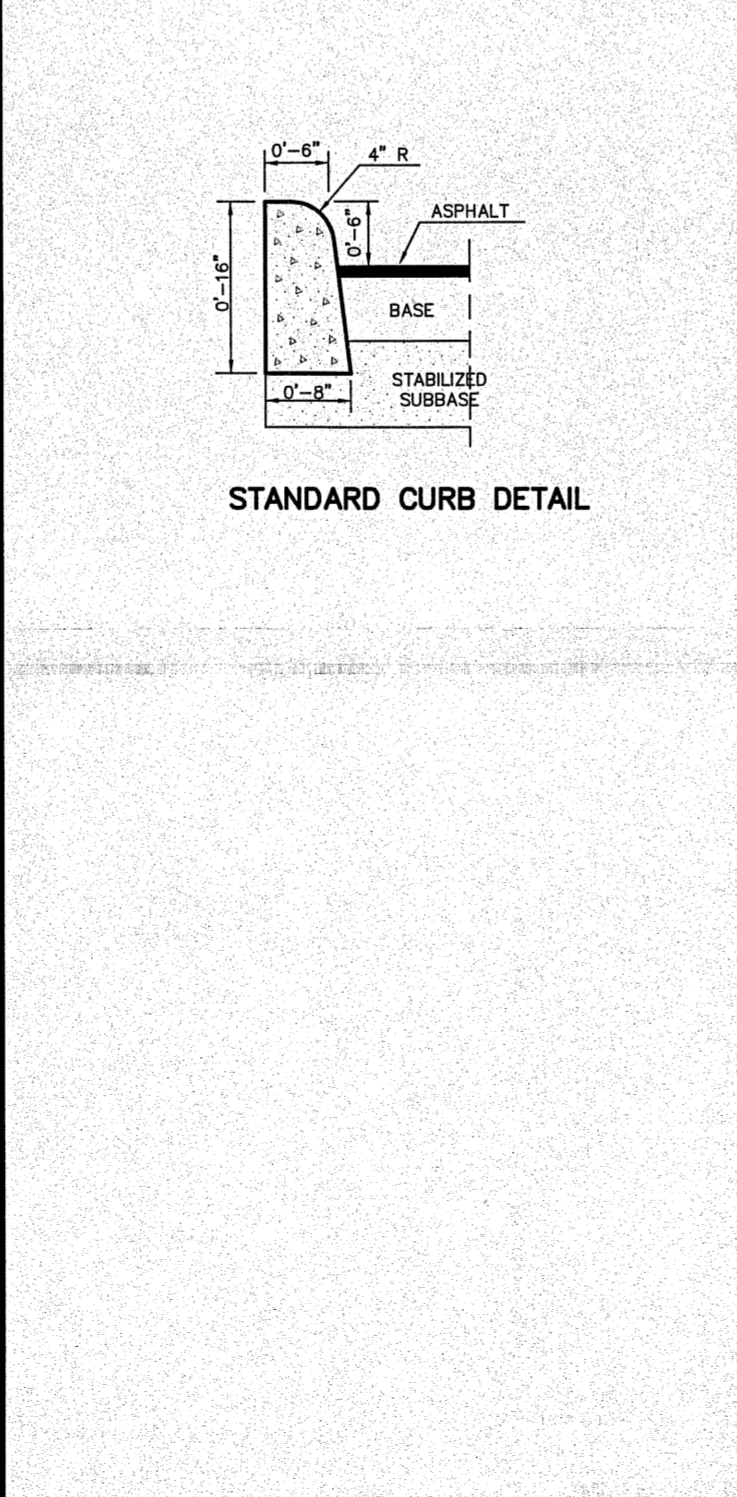
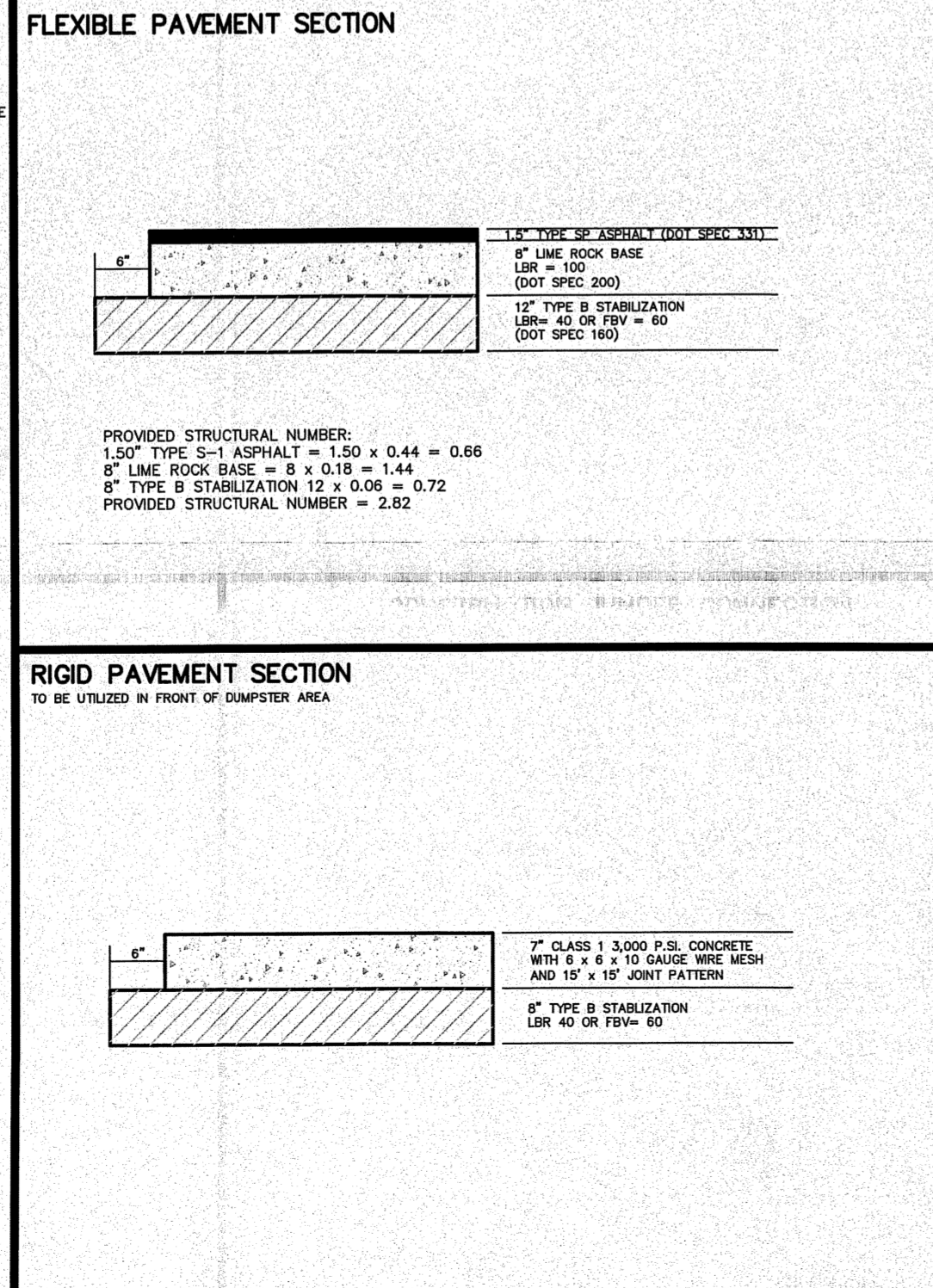
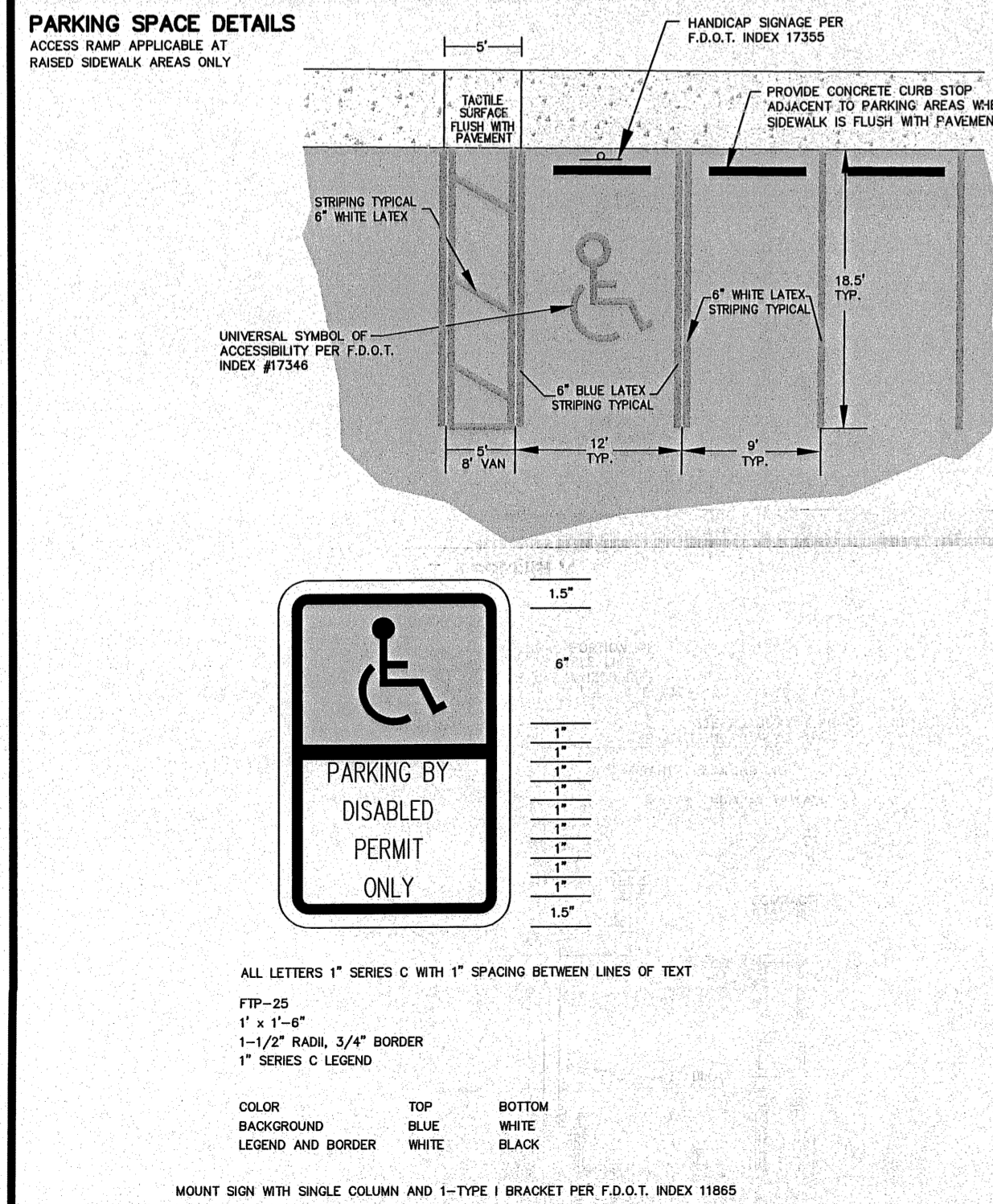
SHEET NO. 7
OF 10 SHEETS



TYPICAL ROADWAY AND PARKING SECTION



DETENTION AREA AND SPREADER SWALE CROSS SECTION



REVISION
 (1) MAIL TO: 06-07 PER POLK COUNTY DEC
 (2) MAIL TO: 04/08 AND BRICK PAVR DETAILS
 (3) MAIL TO: 04/08 AND BRICK PAVR DETAILS

DATE: 08/10/07

DRAWN BY: R.M.L.

DATE: 08/10/07

STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION
**DITCH BOTTOM INLETS
 TYPES F & G**

DESIGNED BY	REV	DATE	APPROVED BY
BY: RML	01	08/10/07	[Signature]
CHECKED BY	02	08/10/07	
DATE			
			233

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CONSTRUCTION DETAILS

BEMMAN CENTER
 POLK COUNTY, FL

18869

SECTION 36
 TOWNSHIP 28 S.
 RANGE 25 E.

DWG: CONSTRUCTION DETAILS

SHEET NO.
 9
 OF 10 SHEETS

CLEARING AND GRUBBING:

SCOPE: The work specified in this section, shall include the removal and disposal of all trees, stumps, roots, structures, appurtenances, and other such objects within the areas of the roadway right of way and other areas shown in the plans to be cleared and grubbed.

METHOD: Unless otherwise directed by the Owner, all tress, brush roots, weeds, grass, and other obstacles to construction shall be removed from the street right of way prior to grading operations.

DISPOSAL: Trees, roots, seeds, and other burnable material may be piled on the site and burned, but only with the Owner's consent, and in the area designated by the Owner. All other materials must be hauled away from the site and disposed of, at the Contractor's expense. Care should be taken to secure necessary burning permits, etc., and such permits are the sole responsibility of the Contractor and any instructions by the Owner and/or Engineer does not relieve the contractor of this responsibility and the responsibility for containing the burning in a safe manner. Damages, resulting from said burning to the overall site or neighboring lands and property, are the Contractor's responsibility.

DEPTH OF REMOVAL: All trees, roots, and other obstacles shall be removed to a depth of at least one foot below the ground surface with the exception of slimes or other unsuitable material, which shall be completely removed from road right of way.

GROUNDWATER: Contractor may be required to de-water to construct improvements. The Contractor shall use waterproof base or under drains, as required by the Final Authority, to protect the integrity of the construction when high water-tables are within eighteen inches of the base course. When any additional costs are anticipated, the Engineer shall be notified prior to proceeding, to verify method(s) to be utilized, change order(s) submitted, and approval by Owner and Engineer.

GRADING AND EXCAVATION:

SCOPE: The work covered by this section shall include all excavation and embankment. Specifically this includes the excavation and/or embankment required to rough grade for the construction of streets, finishing the back slopes from the street to the property line and lot grading. BUT, may be extended to include canals, ditches, or lakes, when directed by the plans.

MATERIALS: The material used for fill shall be approved by the Engineer. material obtained from on-site shall contain no muck, stumps, roots, or other materials that will not suitably compact. No material shall be removed from the site without the approval of the Engineer. Material for grading shall be placed in layers not to exceed eight inches. Each layer shall be spread evenly and compacted to within a minimum of 100% of maximum density as determined by AASHTO 199, Method C.

GRADING TOLERANCE: Areas, to be grades, shall be brought to within one tenth of a foot of the elevation shown on the plans, or as directed by the Engineer.

STABILIZATION:

SCOPE: The work covered by this section consists of stabilizing beneath the entire paved roadway. The limits of this stabilization shall be in accordance with the "Typical Roadway Section" shown on the plans. This work shall be done after all surface work has been completed.

MATERIALS: The material used for stabilizing shall consist of suitable roadway materials, such as local sandy clay, limerock or limerock screenings.

CONSTRUCTION METHODS: The stabilizing material shall be uniformly mixed with the virgin ground to a depth of eight (8) inches. The stabilized area shall have a bearing value of sixty (60) psi as determined by the Florida Bearing Test. Mixing shall be accomplished by use of rotary tillers or other method as approved by the Engineer. Stabilization MAY NOT be commenced on any area that has not first been cleared and grubbed according to the previous section.

MAINTENANCE OF STABILIZED AREA: After the stabilization has been completed, the Contractor shall maintain it free from damage, ruts, etc. caused by hauling or erosion or other causes. The required density MUST be maintained at all times in preparation for the base course.

LIMEROCK BASE:

SCOPE: The work covered by this section consists of the construction of street base which is composed of lime rock, constructed on a prepared sub grade in accordance with these specifications, and with the lines, grades and typical cross sections shown on the plans and details.

MATERIALS: The materials used shall conform to the requirements set by the State Road Department on the Ocala limerock formation.

EQUIPMENT: All equipment, necessary for the proper construction of this work, shall be on the project in good mechanical condition.

TRANSPORTING LIMEROCK: The limerock shall be transported to the point where it is to be used, over rock previously placed. NO HAULING OVER THE SUB GRADE shall be allowed without the approval of the Engineer.

SPREADING LIMEROCK: The limerock shall be spread uniformly with approved equipment. All segregated areas of fine or coarse rock shall be removed and replaced with well graded rock.

COMPACTING AND FINISHING BASE: After the spreading is completed, the entire surface shall be scarified and shaped so as to produce the exact grade and cross section after compaction. When material does not have the proper moisture content to insure the required density, wetting or drying will be required. If moisture is added, it shall be uniformly mixed for FULL DEPTH of the base course. During the final compaction operations, all areas must be finished to grade before density tests are taken. An average density of 98% of maximum, as determined by AASHTO T 180, will be required. Diligence shall be used to avoid mixing the sub grade material into the base material. If this occurs, the Contractor shall remove and replace with clean materials at his expense. If cracks or checks appear in the base course, either before or after priming, which, in the opinion of the Engineer, would impair the structural efficiency of the base course, the Contractor shall remove such cracks or checks by reworking and the cost of such removal shall be the Contractor's responsibility.

CURING AND MAINTAINING: Traffic shall be allowed to use the street while the limerock is curing. The Contractor shall maintain and base to a true and satisfactory surface until the wearing surface is laid. The base shall include a prime coat which will be applied only when the base meets the specified density requirements and the moisture content in the top half of the base does not exceed 90 percent of the optimum moisture of the base material.

DETERMINATIONS: When the base course is less than the required minimum compacted thickness, the Contractor shall correct such areas by scarifying and adding rock. The affected areas shall then be brought to the required state of compaction and required thickness.

PRIME COAT: The base course shall be primed with RC-70 or RC-250 liquid asphalt not less than one-tenth (0.10) gallon per square yard. The prime coat shall then be covered with sand or screenings and MAINTAINED until ready for the wearing surface.

WATERPROOF BASE COURSE: Shell base may be submitted for limerock base of an equivalent thickness is used as described in Florida D.O.T. Specification. When soil cement is used, the Contractor shall employ a licensed testing laboratory to design a mix or a plant mix may be used, providing it will pass a 7-day test of 300 psi.

ASPHALT CONCRETE WEARING SURFACE:

SCOPE: The work covered by this section consists of the construction of an asphaltic concrete wearing surface, composed of an aggregate mineral filler if necessary, to produce the desired stability, and asphalt cement, laid upon typical cross section shown on the plans and details.

COMPOSITION OF MIXTURE: The mixture shall be combined in such proportions as to produce at least 2500 pounds stability at 140 degrees Fahrenheit, as determined by the Hubbard Field Stability Test. The mixture shall be equivalent to the Florida State Road Department's specification for Type I Asphaltic Concrete or D.O.T. S-1 as directed by the Engineer.

CLEANING AND PREPARING SURFACE: The surface shall be prepared as set forth in the section covering the road base and shall be cleaned of all loose and foreign materials.

PLACING THE MIXTURE: The temperature of the mixture at the time of spreading shall be between 250 degrees and 350 degrees Fahrenheit. Finishing by hand shall not be permitted unless approved by the Engineer; however, in limited areas where the use of mechanical spreading and finishing equipment is impractical, the mixture may be spread by hand. The wearing surface shall be checked at frequent intervals by the Engineer. Deviations from the required thickness or from standard crown and section shall be corrected at the Contractor's expense.

COMPACTING MIXTURE: Seal rolling with tandem steel rollers weighing from five (5) to twelve (12) tons shall follow as close behind the spreaders as possible without picking up, displacing, or blistering the material. Rolling with self-pneumatic tired rollers shall follow as close behind the seal rolling as the mix will permit. The self-pneumatic tired roller shall cover every area of the surface with at least ten (10) passes. The seal roller and the pneumatic tired rolling shall be done while the pavement temperature is between 175 and 250 degrees Fahrenheit. Final rolling shall be done before the pavement temperature is lower than 150 degrees Fahrenheit and shall be continued until other roller marks or tire marks are eliminated. In all places inaccessible to a roller, such as adjacent to curbs, headers, gutters, manholes, etc., the required compaction shall be secured with hand tamps.

TRAVERSE JOINTS: The mixture shall be trimmed back to the full thickness of the layer before laying fresh hot mixture against it.

SURFACE REQUIREMENTS: The finished surface shall be such that it will not vary more than one-eighth (1/8) inch from required cross section of the road.

CLEANUP: After the surface course has been completed, the area between the back of the curb and the street right of way shall be thoroughly cleaned and raked of all rocks, debris, or other undesirable materials, and made ready for grassing. This area shall be MAINTAINED at all times until the grassing operation commences.

GRASSING AND MULCHING:

SCOPE: Grassing and mulching of the right of ways shall be in accordance with D.O.T. specifications. After the area between the back of curb and street right of way has been cleaned as outlined above, the entire area shall be fertilized. The fertilized area shall be mixed into the soil to a depth of approximately three (3) inches, and the soil dampened. Then the grass seed shall be evenly spread at a rate of approximately one-hundred (100) pounds per acre. Grass seed shall be approved permanent seed. After the seed is in place, loose mulch shall be applied evenly over the entire area, approximately two (2) inches thick. The area shall then be watered, and MAINTAINED until such times as the Contractor is released, or has completed the project. Where necessary, rolling will be employed to secure the grass seed. The Contractor is also responsible for grassing and mulching all areas other than street right of ways that are shown on the construction drawings, including all areas disturbed as part of the paving and drainage construction.

STORM SEWER SYSTEM:

SCOPE: The work covered by this section shall include clearing, trenching, furnishing and installing pipe, structures, back filling and anything necessary to construct a complete drainage system in accordance with these specifications and cross sections shown on the plans and details, and leave the site in an orderly condition.

EXCAVATION: The Contractor shall perform all excavation to a depth shown on the drawings. Excavated materials not required for back fill shall be placed where directed by the Owner. Unstable soil shall be removed and replaced with acceptable sand, gravel, or crushed slag thoroughly tamped.

TRENCH EXCAVATION: The width of trenches shall be approximately six (6) inches wider than the pipe on each side, or of width needed for free working space. The trench shall be dry until joints harden.

BRACING AND SHORING: The Contractor, at his own expense, shall do all bracing, sheathing and shoring necessary to perform and protect all excavations indicated on the plans, and as required for safety.

MATERIALS: AS INDICATED ON THE PLANS, pipe shall be either corrugated metal or concrete, of approved design and manufacturer. Concrete pipe shall meet the requirements set forth in ASTM C-76. The pipe shall meet the design requirements shown in Table 3 for Standard Concrete Pipe as listed in the Concrete Pipe Handbook.

BEDDING: Pipe shall be bedded in accordance with Class "C" requirements as established by the American Concrete Pipe Association.

LAYING: All pipe shall be laid to line and grade as indicated on the plans, beginning at the downstream end. Concrete pipe shall be laid with the bell end upstream.

Corrugated metal pipe shall be assembled in accordance with the manufacture's instructions. All pipe shall be unloaded and handled with reasonable care. Pipe shall not be rolled or dragged over gravel or rock(s) and shall be prevented from striking rock(s) or other hard objects during placement in trench or on bedding. Corrugated metal pipe shall be placed on the bed starting downstream end with the inside circumferential laps pointing downstream and with the longitudinal laps at the side or quarter points. Bituminous coated pipe and paved invert pipe shall be installed in a similar manner to corrugated metal pipe with special care in handling to avoid damage to coatings. Paved invert pipe shall be installed with the invert pavement placed and centered on the bottom. The pipe sections shall be joined by coupling bands of like material. One-piece or two-piece bands may be used. Coupling bands of angular and helical corrugated metal pipe shall provide circumferential and longitudinal strength to preserve the culvert alignment, prevent separation of the pipe sections, and prevent infiltration of side fill material. Gauge of all metal pipe shall be as per D.O.T. specifications, unless otherwise shown in the plans. The Contractor shall furnish certification from manufacturer that the gauge meets the requirements shown.

BACK FILLING: Back filling material in a trench up to the top of the pipe shall be compacted in layers not exceeding six (6) inches in thickness. Compaction may be by hand or pneumatic tampers. Care shall be exercised to compact the back fill under the pipe and to insure that the back fill is in contact with the sides of the pipe.

CLEANUP: Upon completion of the work, the Contractor shall leave the area in a neat and presentable condition.

MAINTENANCE: The storm sewer MUST be maintained in a clean, first-class condition at all times. The Contractor is solely responsible for protection of pipelines against sand entering through openings, etc., by properly closing said openings. Whenever a pipe line becomes infiltrated by sand or other debris, the Contractor will be responsible for cleaning the lines prior to further construction.

CONCRETE:

AGGREGATES: Coarse aggregate must be clean, hard, strong, durable particles free of absorbed chemicals, coatings of clay and other materials in amounts that could affect hydration and the chemical bonding of the aggregate with the cement paste. Fine aggregate shall consist of either a natural sand or stone sand, composed of sound particles of approved stone. All fine aggregates shall also be free of clay or other adherent coatings stone. All sand shall be free of clay or other adherent coatings of harmful amounts of deleterious mater.

CEMENT: Standard Portland cement and high early strength Portland cement shall meet the requirements of current Federal Specifications SS-C-192 or equal.

WATER: Water shall be free from oil, acids, alkali and vegetable matter and be reasonable clean. Salt water shall NOT be used.

STRENGTH: Concrete shall have a minimum 28-day compression strength of 2500 psi, unless specifically indicated otherwise.

CONSTRUCTION METHODS:

PREPARATION OF SUB GRADE: All boulders, organic material, and any other objectionable material shall be removed and replaced with approved material. The sub grade shall be properly shaped, rolled and uniformly compacted to conform with accepted cross-sections and grades.

PLACING AND FINISHING CONCRETE: Just prior to placing the concrete, the sub grade shall be moistened. The concrete, mixed to the proper consistency, shall be placed in forms and thoroughly tamped in place so that all honeycombs will be eliminated and sufficient mortar will be brought to the surface. After this, the surface shall be brought to a smooth even finish by means of wooden float. All faces will be smooth, even and free of any honeycombs. All edges shall be tool rounded.

EXPANSION AND CONTRACTION JOINTS FOR CONCRETE: Expansion joints shall be placed according to good construction practice and/or as directed by the Engineer.

CURING CONCRETE: When completed, the concrete shall be kept moist for a period of not less than three (3) days, or longer if necessary, and shall be protected from the elements.

BACK FILLING: Back fill shall be of suitable material and shall be placed and tamped, in layers of not over six (6) inches in depth, until firm. Back filling shall follow immediately after the concrete forms have been removed.

CONSTRUCTION PRACTICES: All storm water run-off from the site during construction, shall be monitored visually by the Contractor to assure water quality and quantity are generally maintained to the pre-development rates. The following shall be used to accomplish mitigation of adverse quality and quantity impacts to off-site properties during construction period.

1. Drainage systems shall be constructed as soon as possible to avoid any increases in run-off, resulting from the new development.
2. Where work is performed in a water course or water body, silt curtains and silt screens shall be utilized to control siltation and turbidity.
3. Disturbed areas will, as a minimum requirement, be grassed and mulched when erosion or siltation is a problem.
4. If special conditions or unanticipated measures are required to control storm water run-off, they shall be implemented to mitigate adverse impacts to off-site properties.

SIDE DRAINS FOR RETENTION AREAS: When shown on the plans, side drains shall utilize materials and type of construction consistent with latest edition of applicable rules and sand is subject to gradation. The Contractor shall submit volume and lab analysis of sand used.

WETLAND VEGETATION:

WETLAND VEGETATION: When plants call for wetland vegetation in retention areas, it shall be placed as specified. Plants shall be of good quality and the Contractor will be required to provide a list of all types and number of units planted to the Engineer. As with "AS-BUILTS", the placing of this vegetation is required and the Contractor shall notify the Engineer of any deviation(s) prior to proceeding with said deviation(s). The Owner will likely be required to monitor the vegetation growth and the Contractor shall assure that work is adequate to ensure survival.

MITIGATION OF WETLANDS: When specified, wetland mitigation shall include placing of a six (6) inch organic mulch over an area, cut to grade, with good quality plants on the site specified as mitigation areas. Whenever possible, wetlands, permitted and shown to be filled, shall be used as a source of vegetation to be planted in the mitigation area.

QUALITY CONTROL:

TESTING: All construction shall be subject to quality control testing including quality, thickness and compaction. Test reports prepared by a licensed testing laboratory and certified by a professional Engineer shall be submitted to the Engineer, Final Authority, and Owner upon completion of all paving work. The Contractor shall not pave any area until sub grade and base course are certified to comply with plans and specifications.

AS-BUILTS: All drainage systems are subject to being represented on "AS-BUILT" plans. Any deviations shall be noted on the plans by the Contractor and submitted to the Engineer. The Contractor may be required to modify any deviations to that shown on the plans, unless approved by the Engineer.

FINAL AUTHORITY

The Final Authority for quality of construction shall be POLK COUNTY

* Any items not addressed by the Final Authority shall be performed under the latest Florida Department of Transportation manual commonly known as Standard Specifications for Road and Bridge Construction.

RYAN M. LAZARUS
 CIVIL ENGINEER
 CERTIFICATE OF AUTHORIZATION #00001022
 10/31/2008
 DATE

DRAWN BY: R.M.L.
 DATE: 08/21/2007

REVISION

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STREET AND DRAINAGE SPECIFICATIONS

BEMMAN CENTER POLK COUNTY, FL

18869

SECTION **36**
 TOWNSHIP **28 S.**
 RANGE **25 E.**

DWG: STREET & DRAINAGE

SHEET NO.
10
 OF 10 SHEETS