



**GENOA CHARTER TOWNSHIP**  
**Special Land Use Application**

**GENOA TOWNSHIP**

**APR - 4 2018**

**RECEIVED**

This application **must** be accompanied by a site plan review application and the associated submittal requirements. (The Zoning Official may allow a less detailed sketch plan for a change in use.)

APPLICANT NAME & ADDRESS: Ken McQuade, ACS Build, Inc., 28525 Beck Road, Suite 118, Wixom, MI 48393  
*Submit a letter of Authorization from Property Owner if application is signed by Acting Agent.*

APPLICANT PHONE: ( 248 ) 348-9911 EMAIL: kmcquade@acsbuild.com

OWNER NAME & ADDRESS: Truck & Trailer Specialties

SITE ADDRESS: Vacant Land, Grand Oaks Drive PARCEL #(s): 4711-05-300-054

OWNER PHONE: (616) 734-4968 EMAIL: bbouwman@ttspec.com

Location and brief description of site and surroundings:  
Parcel is located on the west side of Grand Oaks Drive, south of Grand River. Parcel is vacant and wooded, approximately 10.03 Acres.

\_\_\_\_\_

Proposed Use:  
The proposed use is a new 30,000 S.F. building, specializing in Truck and Snow Equipment.

\_\_\_\_\_

Describe how your request meets the Zoning Ordinance General Review Standards (section 19.03):

a. Describe how the use will be compatible and in accordance with the goals, objectives, and policies of the Genoa Township Comprehensive Plan and subarea plans, and will promote the Statement of Purpose of the zoning district in which the use is proposed.

Site is being used for industrial purpose in industrial zoning. Adjacent properties outdoor storage.

\_\_\_\_\_

b. Describe how the use will be designed, constructed, operated, and maintained to be compatible with, and not significantly alter, the existing or intended character of the general vicinity.

Design in accordance with Genoa Township requirements.

\_\_\_\_\_

c. How will the use be served adequately by essential public facilities and services such as highways, streets, police and fire protection, drainage structures, water and sewage facilities, refuse disposal and schools?

Site will provide entrance from Grand Oaks Drive and tie into existing public utilities. Storm water detained per requirements and outlet to wetland.

\_\_\_\_\_

d. Will the use involve any uses, activities, processes, or materials potentially detrimental to the natural environment, public health, safety, or welfare by reason of excessive production of traffic, noise, vibration, smoke, fumes, odors, glare, or other such nuisance? If so, how will the impacts be mitigated?

No

e. Does the use have specific criteria as listed in the Zoning Ordinance (sections 3.03.02, 7.02.02, & 8.02.02)? If so, describe how the criteria are met.

yes, Snowplow, truck fabrication and repair.

I HEREBY CERTIFY THAT ALL INFORMATION AND DATA ATTACHED TO AND MADE PART OF THIS APPLICATION ARE TRUE AND ACCURATE TO THE BEST OF MY KNOWLEDGE AND BELIEF. I AGREE TO DESIGN, CONSTRUCT AND OPERATE, AND MAINTAIN THESE PREMISES AND THE BUILDINGS, STRUCTURES, AND FACILITIES WHICH ARE GOVERNED BY THIS PERMIT IN ACCORDANCE WITH THE STATED REQUIREMENTS OF THE GENOA TOWNSHIP ZONING ORDINANCE, AND SUCH ADDITIONAL LIMITS AND SAFEGUARDS AS MAY BE MADE A PART OF THIS PERMIT.

THE UNDERSIGNED *Daniel Bouwman* STATES THAT THEY ARE THE FREE OWNER OF THE PROPERTY OF PROPERTIES DESCRIBED ABOVE AND MAKES APPLICATION FOR THIS SPECIAL LAND USE PERMIT.

BY: Daniel Bouwman, Truck & Trailer Specialties, Inc.

ADDRESS: 3286 Hanna Lake Industrial Park Drive, Dutton, MI 49316

**Contact Information** - Review Letters and Correspondence shall be forwarded to the following:

Ken McQuade of ACS Build, Inc. at kmcquade@acsbuild.com  
Name Business Affiliation Email

**FEE EXCEEDANCE AGREEMENT**

As stated on the site plan review fee schedule, all site plans are allocated two (2) consultant reviews and one (1) Planning Commission meeting. If additional reviews or meetings are necessary, the applicant will be required to pay the actual incurred costs for the additional reviews. If applicable, additional review fee payment will be required concurrent with submittal to the Township Board. By signing below, applicant indicates agreement and full understanding of this policy.

SIGNATURE: *Ken McQuade* DATE: 4/4/2018

PRINT NAME: Ken McQuade, ACS Build, Inc. PHONE: (248) 348-9911



**GENOA CHARTER TOWNSHIP**  
**Application for Site Plan Review**

**TO THE GENOA TOWNSHIP PLANNING COMMISSION AND TOWNSHIP BOARD:**

APPLICANT NAME & ADDRESS: Ken McQuade, ACS Build, Inc., 28525 Beck Road, Suite 118, Wixom, MI 48393  
*If applicant is not the owner, a letter of Authorization from Property Owner is needed.*

OWNER'S NAME & ADDRESS: Truck & Trailer Specialties, Inc.

SITE ADDRESS: Vacant Land, Grand Oaks Dr. PARCEL #(s): 4711-05-300-051

APPLICANT PHONE: (248) 348-9911 OWNER PHONE: (616) 734-4968


OWNER EMAIL: bbouwman@tt-spec.com

LOCATION AND BRIEF DESCRIPTION OF SITE: Parcel is located on the west side of Grand Oaks Drive,  
south of Grand River. Parcel is vacant and wooded, approximately 10.03 Acres.

BRIEF STATEMENT OF PROPOSED USE: The proposed use is a new 30,000 S.F. building,  
specializing in Truck and Snow Equipment.

THE FOLLOWING BUILDINGS ARE PROPOSED: New 30,000 S.F. Building

**I HEREBY CERTIFY THAT ALL INFORMATION AND DATA ATTACHED TO AND MADE PART OF THIS APPLICATION IS TRUE AND ACCURATE TO THE BEST OF MY KNOWLEDGE AND BELIEF.**

BY:  Ken McQuade, ACS Build, Inc.


ADDRESS: 28525 Beck Road, Suite 118, Wixom, MI 48393

**Contact Information** - Review Letters and Correspondence shall be forwarded to the following:

1.) Ken McQuade of ACS Build, Inc. at kmcquade@acsbuild.com  
Name Business Affiliation E-mail Address

**FEE EXCEEDANCE AGREEMENT**

As stated on the site plan review fee schedule, all site plans are allocated two (2) consultant reviews and one (1) Planning Commission meeting. If additional reviews or meetings are necessary, the applicant will be required to pay the actual incurred costs for the additional reviews. If applicable, additional review fee payment will be required concurrent with submittal to the Township Board. By signing below, applicant indicates agreement and full understanding of this policy.

SIGNATURE:  DATE: 4/4/2018  
PRINT NAME: Ken McQuade, ACS Build, Inc. PHONE: (248) 348-9911  
ADDRESS: 28525 Beck Road, Suite 118, Wixom, MI 48393

April 23, 2018

Amy Ruthig  
Planning Commission  
Genoa Township  
2911 Dorr Road  
Brighton, MI 48116

**Truck & Trailer Specialties – Addendum to Site Plan Application**

For: Professional Engineering  
Grand Oaks Drive – Vacant Parcel  
Genoa Township, Livingston County, Michigan

In response to your email dated April 13, 2018, please find below a detailed description of the proposed use and a list of the Special Land Uses that the applicant is seeking:

Truck & Trailer Specialties, with three Michigan locations, has been serving the public works and commercial trucking industry since 1974. The focus of their work is to fabricate and equip trucks for snow plowing services needed by City, County and private snow clearing operations. Truck & Trailer Specialties originated and remains in the small west Michigan town of Dutton, Michigan, located just south of Grand Rapids. The company was founded by the father & son team of Cal and Dan Bouwman. In 1996, the Boyne Falls Truck & Trailer Specialties location was opened under the direction of Butch Cone, former longtime employee of Hyde Equipment in Petoskey, Michigan. The goal of the Boyne Falls store is to serve northern Lower Michigan and the Upper Peninsula. Spring of 2013 saw the opening of the newest Truck & Trailer facility in Howell, Michigan. Truck & Trailer Specialties prides itself on extraordinary craftsmanship, ingenuity, and loyal long time customers. The Truck & Trailer locations feature full service, truck set-up facilities including body & paint shops, welding & fabricating capabilities, complete line of truck bodies & attachments, and mobile hydraulic system expertise specializing in closed center systems with load sense piston pumps, Bosch Rexroth being the premier supplier. The Howell, Michigan (Grand Oaks) location will have 20 employees. The hours of operation are Monday through Friday 7AM to 5 PM, Saturday 8AM to 12PM, and closed on Sunday. Typical loading/unloading procedures will occur at the west side of the building, as indicated on the plans.

The special uses could be:

- 1) Automotive Assembly or Manufacturing
- 2) Any use with outdoor equipment/material storage and all other open air businesses.
- 3) Accessory fuel storage or use of hazardous materials

If additional information is needed prior to publication, please let us know. If you have any questions, please do not hesitate to contact me.

Sincerely,  
GreenTech Engineering, Inc.



Jesse Parkinson  
Project Manager

Attachments

**IMPACT ASSESSMENT FOR SITE PLAN APPROVAL**

**Truck & Trailer Specialties, LLC**  
**Genoa Township, Livingston County, Michigan**

**April 4, 2018**

**Prepared for:**

Ken McQuade  
ACS Build, Inc.  
28525 Beck Road, Suite 118  
Wixom, MI 48393  
(248) 348-9911

**A. Names and addresses of persons responsible for preparation of impact assessment and brief statement of qualifications.**

Prepared by:

GreenTech Engineering, Inc.  
51147 W. Pontiac Trail  
Wixom, MI 48393  
(248) 668-0700  
Civil Engineerings & Land Surveyors

ACS Build, Inc.  
28525 Beck Road, Suite 118  
Wixom, MI 48393  
(248) 348-9911  
Contractor

G.A.V. Associates  
24001 Orchard Lake Rd. Suite 180A  
Farmington, Michigan 48336  
(248) 985-9101 Ext 1003  
Architects

**B. Map(s) and written description/analysis of the project site** including all existing structures, manmade facilities, and natural features. The analysis shall also include information for areas within 10 feet of the property. An aerial photograph or drawing may be used to delineate these areas.

- 1) See drawings in SPA Application and submission for property description and location.
  - a. Site is located south of Grand River on the west side of Grand Oaks Drive

**C. Impact on natural features:** A written description of the environmental characteristics of the site prior to development and following development, i.e., topography, soils, wildlife, woodlands,

mature trees (eight-inch caliper or greater), wetlands, drainage, lakes, streams, creeks or ponds. Documentation by a qualified wetland specialist shall be required wherever the Township determines that there is a potential regulated wetland. Reduced copies of the Existing Conditions Map(s) or aerial photographs may accompany written material.

The property size is approximately 10.03 acres which was recently split off of the parent parcel. The site is vacant and wooded with wetlands at the west side of the property.

The existing topography on the site has ground elevations ranging from 945 to 994 the site is lower than Grand Oaks Drive and slopes from east to west with the storm water sheet flowing overland. The ultimate outlet for the storm water is a proposed stormwater pond at the west side and wetland soils per attached existing condition plan of the property.

- D. **Impact on stormwater management:** Description of measures to control soil erosion and sedimentation during grading and construction operations and until a permanent ground cover is established. Recommendations for such measures may be obtained from the Livingston County Drain Commission at (517) 546-0040.

Surface runoff during periods of construction will be controlled by property methods set forth by the Livingston County Drain Commissioner, including silt fences, check dams, tree protection fence, stormwater detention pond and a mud mat.

- E. **Impact on surrounding land used:** Description of the types of proposed uses and other man-made facilities, including any project phasing, and an indication of how the proposed use conforms or conflicts with existing and potential development patterns. A description shall be provided of any increases of light, noise or air pollution which could negatively impact adjacent properties.

The applicant if proposing a Truck and Snow Equipment facility. This development shall have the required parking, lighting and storm water management, environmental impact management associated with this type of development. Applicant will have 1 entrance to the property via an access drive off of Grand Oaks Drive.

- F. **Impact on public facilities and services:** Describe the number of expected residents, employees, visitors, or patrons, and the anticipated impact on public schools, police protection and fire protection. Letters from the appropriate agencies may be provided, as appropriate.

There is no negative impact on public facilities or services. This project is part of the overall development of the immediate and surrounding area and has been anticipated with regards to public services.

- G. **Impact on public utilities:** Describe the method to be used to service the development with water and sanitary sewer facilities, the method to be used to control drainage on the site and from the site, including runoff control during periods of construction. For sites serviced with sanitary sewer, calculations for pre- and post development flows shall be provided in comparison with sewer line capacity. Expected sewage rates shall be provided in equivalents to a single family home. Where septic systems are proposed, documentation or permits from the Livingston County Health Department shall be provided.

The development will be serviced by both public water and sanitary sewer that are located at the east property line (Grand Oaks Drive).



- H. **Storage and handling of any hazardous materials:** A description of any hazardous substances expected to be used, stored or disposed of on the site. The information shall describe the type of materials, location within the site and method of containment. Documentation of compliance with federal and state requirements, and a Pollution Incident Prevention Plan (PIPP) shall be submitted, as appropriate.

The development will have a list of all hazardous substances expected to be used, stored or disposed of on the site. MSDS sheets will be kept on each material with the location within the site and the method of containment. A PIPP will be submitted at a later date and within a reasonable time table.

- I. **Impact on Traffic and Pedestrians:** A description of the traffic volumes to be generated based on national reference documents, such as the most recent edition of the *Institute of Transportation Engineers Trip Generation Manual*, other published studies or actual counts of similar uses in Michigan. A detailed traffic impact study shall be submitted for any site over ten (10) acres in size which would be expected to generate 100 directional vehicle trips (i.e. 100 inbound or 100 outbound trips) during the peak hour of traffic of the generator or on the adjacent streets. The contents of the detailed study shall include:

There will be 20 employees and minimal deliveries daily. This will have little impact on traffic for Grand Oaks Drive.

- J. **Special Provisions:** General description of any deed restrictions, protective covenants, master deed or association bylaws.

None at this time

- K. **A list of all sources shall be provided.**

Genoa Twp submittal requirements for impact study  
Genoa Twp zoning ordinance

**POLLUTION INCIDENT PREVENTION PLAN  
AND  
HAZARDOUS WASTE CONTINGENCY PLAN**

for

Truck & Trailer Specialties, Inc.  
Howell Store Location  
Parcel #4711-05-300-054  
Grand Oaks Drive  
Howell, Michigan 48843  
Telephone: 517-552-3855

**PRIMARY EMERGENCY COORDINATOR**

Brian Bouwman  
Work: 517-552-3855  
Cell: 616-734-4968

**ALTERNATE EMERGENCY COORDINATOR**

Dan Bouwman  
Work: 616-698-8215  
Cell: 616-889-7495

\*\*\*\*\*  
\* IN CASE OF EMERGENCY CALL THE \*  
\* \* \* \* \*  
\* DEQ POLLUTION EMERGENCY ALERTING \*  
\* \* \* \* \*  
\* SYSTEM (PEAS) 1-800-292-4706 \*  
\*\*\*\*\*

DATE: April 25, 2018

## **STATUTORY AUTHORITY**

This Pollution Incident Prevention Plan (PIPP) has been prepared in accordance with Part 5 of the General Rules established by the Michigan Water Resources Commission under the authority of Act 245 of the Public Acts of 1929 as amended.

This facility is a small quantity generator of hazardous wastes and is therefore required to maintain and follow a hazardous waste contingency plan. This PIPP has been amended to incorporate hazardous waste management provisions sufficient to comply with the Resource Conservation and Recovery Act (40 CFR 265 Subpart D) and the Michigan Hazardous Waste Management Act (Act 64). Copies of this plan have been placed on file with the appropriate agencies.

This plan is to be kept on file in the facility waste notebook. Its content should be familiar to each employee. The plan is to be reviewed and amended as required by changes in operations or failure of the plan in an emergency.

A formal training program on hazardous waste and polluting materials management has been developed by Tuck & Trailer Specialties. This training will be required for all emergency coordinators, their alternates and any employee who manages polluting materials and hazardous wastes as part of day to day operations.

An outline of this training program is on file in the Waste Management Notebook at this facility.

\* NOTE - Although the statute and rules refer to the Part 5 of the General Rules of the Water Resource Commission, promulgated pursuant to Act 245, P.A. 1929, as amended (Act 245), and to the Water Resources Commission (WRC), the decision making authority formerly held by the WRC was delegated to the DEQ through Executive Orders signed by the governor. In addition, Act 245 has been incorporated as Part 31. Water Resources Protection, of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended (Act 451) MCL 324.3101 et seq. **Please be aware that these rules are currently under revision.**

## EMERGENCY RESPONSE AGENCIES

### POLICE

State - Brighton 810-227-1051

County - Livingston/Sheriff 517-546-2440

City - Howell Police Dept. 517-546-1330

### FIRE

Howell 517-546-0560

### HOSPITAL

St. Joseph Mercy 517-545-6000

### AMBULANCE

Livingston Co. EMS 517-546-6220

### HEALTH DEPT- Livingston Co.

Environmental 517-546-9858

Public 517-546-9850

### MDEQ OFFICE

Lansing Office 517-284-6651

**CALL 911 FOR EMERGENCIES**

## **POLLUTION INCIDENT RESPONSE**

If a spill or leak of salt, oil or polluting material occurs, the Emergency Response Actions posted near the telephones are to be followed. These are given here in more detail. The emergency response coordinator and alternates should become familiar with these steps.

1. Assess the situation; follow all health and safety precautions warranted by the material and circumstances.
2. If there is reason to believe that the release of polluting material threatens the health or safety of employees or of surrounding residents or properties evacuate the facility, notify the local emergency response agencies listed in this plan and follow their instructions.
3. If there is reason to believe that the polluting material has or may reach the waters of this state via the drains, sewers, surface runoff or soils at the facility, immediately contact the DEQ Pollution Emergency Alerting System (PEAS) at the number on the front of this plan. Follow their instructions for containing or cleaning up the material.
4. Take steps to minimize the release of polluting material to the environment. This can include but is in no way limited to the following measures:
  - a. DO NOT FLUSH WITH WATER UNLESS DIRECTED TO DO SO.
  - b. Shut off valves, plug leaks, pump tanks etc. to stop the release.
  - c. Dike or absorb the material using sand or other material.
  - d. Redirect flows to a holding area.
  - e. Excavate contaminated soils.
5. Clean up all contaminated material. Follow instructions given by DEQ staff for final clean up action.
6. Properly store, label and document the wastes for disposal.

7. Notify Truck & Trailer Specialties Management that a spill or leak has occurred. Make arrangements for disposal of waste material.
8. Clean and service all emergency equipment. Replenish supplies of absorbent material, etc. Recommend and perform maintenance on containment systems.
9. Enter into the waste notebook, a full account of the incident including date, time, volume, material and response taken.

10. If the DEQ PEAS staff has not been notified, do so within 10 days of the incident with the following information:
  - a. Facility name and location.
  - b. Description and volume of material involved.
  - c. Time and date of spill or leak.
  - d. Assessment of damage and response taken.
  - e. Remedial action planned or assistance needed.
11. Review PIPP/HWCP for changes needed to make it more effective and realistic.

## **PHYSICAL DESCRIPTION OF THE FACILITY**

This is an existing facility that was purchased by Truck & Trailer Specialties in 2012 for the purpose of truck buildups which encompasses body installation, plows, material distributors, hydraulic and lighting systems, etc. The sole structure incorporates the offices and shop areas. There are no floor drains within the facility or catch basins within the paved lot.

This facility has its own deep well for a fresh water source. The building is connected to the sanitary sewer. Roof and surface drainage is routed into catch basins which outlet into the lagoon. There are no floor drains within the structure. There is one storm water drain and manhole southwest of the shop about 50 feet that is routed to the lagoon.

For security and safety reasons, this facility has a fenced storage yard. During off duty hours the gate is closed and locked.



## EMERGENCY EQUIPMENT

This facility will be maintained and operated to minimize the possibility of a fire, explosion or release of polluting materials. The following communications, fire protection, spill control and clean up equipment are available on site in case of an emergency. This equipment will be inspected and maintained as necessary to assure its proper operation if a pollution incident should occur.

<u>Description</u>	<u>Testing/Maintenance</u>
1. Portable Fire Extinguishers	Inspect annually or as needed
11. Eye Wash	Inspect monthly
15. Telephone/PA System	Test monthly    Water hose
Absorbent Material	Replenish supply as needed
Hand Shovels	

\* Numbers correspond to the site plan in the Attachments Section.

## **POLLUTING MATERIALS STORED OR USED AT THIS FACILITY**

Listed below are the materials currently stored or used at the Truck & Trailer Specialties Howell facility that have the potential of causing environmental damage in the event of accidental spills or leakage. Following is a discussion of the type of material, how it is stored and pollution incident prevention measures.

Vehicle Fluids

Waste Oil

Solvents

Small Quantity Chemical Products

The locations of these materials are shown on the Hazardous Material Site Plan found in the Attachments Section. Complete information regarding the physical properties and required safety precautions can be found in the Safety Data Sheets (SDS) posted at this facility.

## **Vehicle Fluids**

The Truck & Trailer Specialties Howell facility uses varying quantities of lubricating oil, gear oil, automatic transmission fluid, hydraulic fluid and antifreeze. Bulk vehicle fluids are stored inside the main shop. The shop has no floor drains which renders the shop itself as the containment area. Vehicle fluids are pumped directly from their original containers as needed.

## **Pollution Incident Prevention Measures**

If a large spill were to occur, it would be contained as quickly as possible. Absorbent material is available in the storage and use areas for cleaning up small spills. Care will be taken to avoid and clean up spills which may occur. The vehicle fluid storage and dispensing areas will be inspected regularly for signs of spills or leaking containers. In the event of the release of a large or unknown volume of material the POLLUTION INCIDENT RESPONSE STEPS presented in this plan and posted in the facility are to be followed.

## **Solvents**

There is no inventory of bulk solvents maintained at this site. Small quantities are kept for immediate use. Flammable type solvents are kept in flammable liquid storage cabinet indicated as #8 on site plan.

## **Waste Oil Disposal**

At the Truck & Trailer Specialties Howell location, waste oil is poured into a 55 gallon above ground holding drum (with containment), located in the shop facility along south wall. When the tank is full, a licensed hauler will pump out the tank and dispose of the waste oil. In the event that substances other than oil are deposited in the waste oil tank, the contents are analyzed to determine if it must be treated as a hazardous waste.

## **Pollution Incident Prevention Measures**

Only oil may be deposited in the waste oil tank. The area around the tank will be checked weekly for irregularities. Leakage from the waste oil tank can be detected by regularly checking around the tank.

In the event of the release of a large or unknown volume of material, the POLLUTION INCIDENT RESPONSE STEPS presented in this plan and posted in the facility are to be followed.

### Polluting Materials Stored in Small Quantities

The Truck & Trailer Specialties Howell location stores small quantities of several chemical products. Among these are tar removers, cleaners, paints and paint thinners. These are stored in their original containers in a designated storage area away from open drains. Each product's label and Material Safety Data Sheet (MSDS) will be consulted for proper use and disposal.

### Hazardous Waste

This facility is a small quantity generator of hazardous wastes and is regulated under both the Federal Resource Conservation and Recovery Act and the Michigan Hazardous Waste Management Act (Act 64).

Typically the only hazardous waste generated by this facility is waste oil. This plan includes hazardous waste training for all employees, weekly inspection and documentation of any spills or leaking hazardous waste containers, and measures to reduce the volumes of waste generated at this facility. All hazardous waste will be accumulated and manifested for disposal as required by law.

### Pollution Incident Prevention Measures

Hazardous Waste will be stored away from floor drains (**The Howell shop has no floor drains**). The storage area will be inspected regularly. Small spills of hazardous wastes will be blotted with absorbent material and placed in a separate, labeled container and disposed of as solid hazardous waste. In the event of the release of a large or unknown volume of material the POLLUTION INCIDENT RESPONSE STEPS presented in this plan and posted at the facility are to be followed.

## EMERGENCY RESPONSE ACTIONS

(To be posted near telephone and in material storage areas)

1. Quickly assess the situation.
2. Call emergency response agencies and/or evacuate if necessary.
4. Notify the DEQ PEAS if a polluting material does or may reach water resources through sewers, ditches or soil.

**PEAS: 1-800-292-4706**

5. Minimize the damage
  - Take reasonable actions to control fire or limit the damage
  - DO NOT FLUSH HAZARDOUS MATERIAL WITH WATER UNLESS DIRECTED TO DO SO BY AN AGENCY REPRESENTATIVE
  - Shut off valves, pump tanks, plug inlets/outlets
  - Dike or redirect flows to a holding area
  - Absorb with sand or other material
  - Excavate contaminated soils
  - Clean out oil skimmer catch basins
7. Clean up and properly dispose of all recovered or contaminated material.
8. Make full report to DEQ PEAS within 10 days.
9. Evaluate the Plan and response actions for adequacy.

## **EVACUATION PLAN**

(To be posted at the facility)

1. Employers will be given notification verbally \*intercom\*
2. All employees will be evacuated to an area outside the front gate.
3. An employee will be assigned to the front of the property to keep out unauthorized persons.
4. The front gate will be locked after all employees have been accounted for.
5. A sign will be placed on the front gate declaring the area contaminated.

**BENCHMARKS:**

**SITE BM #1**  
ARROW ON HYDRANT 35 FEET NORTH OF THE SOUTHEAST CORNER OF PARCEL #4711-05-300-054  
ELEVATION: 995.96  
DATUM (NAVD 88)

**SITE BM #2**  
ARROW ON HYDRANT 94 FEET NORTH OF THE NORTHEAST CORNER OF PARCEL #4711-05-300-054  
ELEVATION: 993.98  
DATUM (NAVD 88)

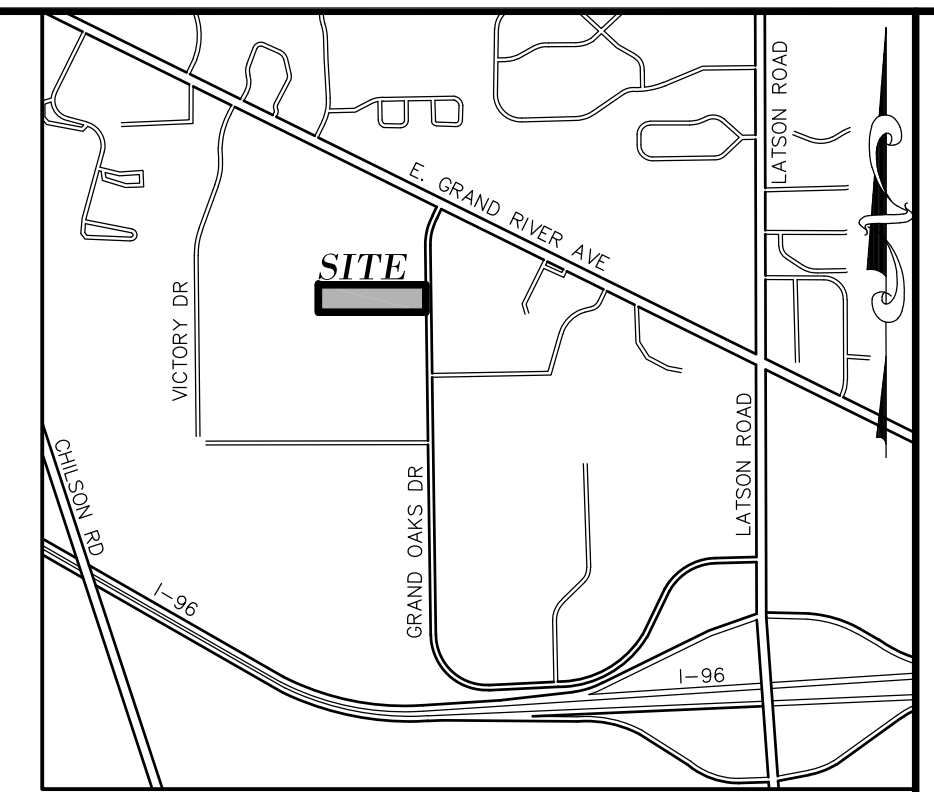
# SITE PLANS

for

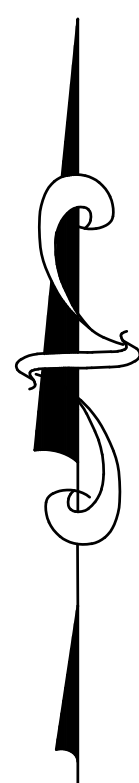
# TRUCK & TRAILER SPECIALTIES, INC.

## GRAND OAKS DRIVE

## GENOA TOWNSHIP, LIVINGSTON COUNTY, MICHIGAN



**GREENTECH ENGINEERING, INC.**  
CIVIL ENGINEERS & LAND SURVEYORS  
51147 W. Pontiac Trail, Wixom, MI 48393  
Phone: (248) 668-0700 Fax: (248) 668-0701



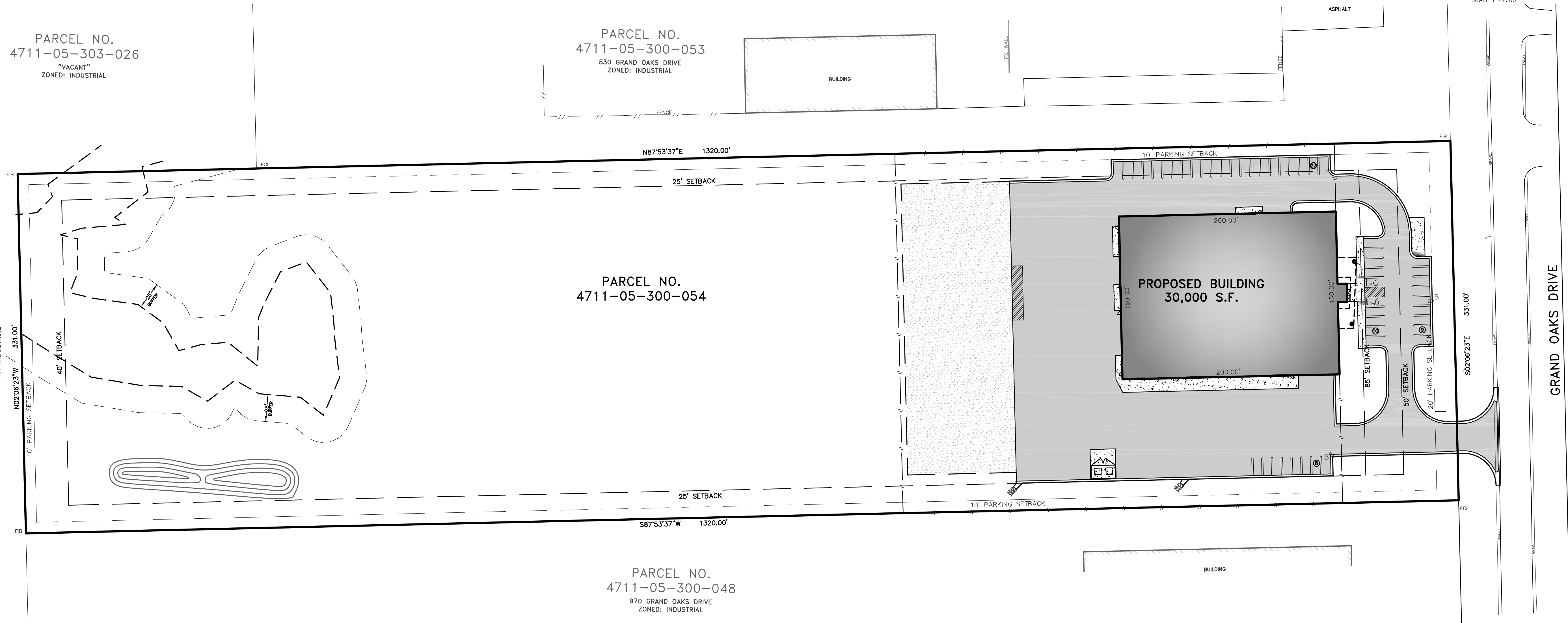
PARCEL NO.  
4711-05-303-026  
"VACANT"  
ZONED: INDUSTRIAL

PARCEL NO.  
4711-05-300-053  
830 GRAND OAKS DRIVE  
ZONED: INDUSTRIAL

PARCEL NO.  
4711-05-300-054

PARCEL NO.  
4711-05-300-048  
970 GRAND OAKS DRIVE  
ZONED: INDUSTRIAL

PARCEL NO.  
4711-05-303-026  
"VACANT"  
ZONED: INDUSTRIAL



**GENERAL NOTES:**

1. ALL WORKMANSHIP AND MATERIALS SHALL BE IN ACCORDANCE WITH THE CURRENT STANDARDS AND SPECIFICATIONS OF GENOA TOWNSHIP.
2. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO VERIFY AND/OR OBTAIN ANY INFORMATION NECESSARY REGARDING THE PRESENCE OF UNDERGROUND UTILITIES WHICH MIGHT AFFECT THIS JOB.
3. EXISTING EASEMENTS WILL BE SHOWN PER TITLE WORK, ONCE RECEIVED.
4. CONTRACTOR TO OBTAIN ALL REQUIRED APPROVALS AND PERMITS PRIOR TO THE START OF CONSTRUCTION.

**DESCRIPTION: PARCEL #4711-05-300-054**

PART OF THE SOUTHWEST 1/4 OF SECTION 5, T2N-R5E, GENOA TOWNSHIP, LIVINGSTON COUNTY, MICHIGAN, BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS: COMMENCING AT THE SOUTH 1/4 CORNER OF SAID SECTION 5; THENCE ALONG THE SOUTH LINE OF SECTION 5, S 88°01'06" W, 497.04 FEET (RECORDED AS S 87°12'58" W, 496.99 FEET); THENCE ALONG THE WEST RIGHT-OF-WAY LINE OF GRAND OAKS DRIVE (100-FOOT WIDE), N 01°18'58" W, 1025.95 FEET (RECORDED AS N 02°06'23" W, 1026.06 FEET), TO THE POINT OF BEGINNING OF THE PARCEL TO BE DESCRIBED; THENCE S 88°40'50" W, 1320.04 FEET (RECORDED AS N 87°53'37" E, 1320.00 FEET); THENCE ALONG THE EAST LINE OF GRAND OAKS WEST INDUSTRIAL PARK, A SUBDIVISION RECORDED IN LIBER 30 OF PLATS, PAGES 1 THROUGH 5, LIVINGSTON COUNTY RECORDS, N 01°20'08" W, 331.04 FEET (RECORDED AS N 02°06'23" W, 331.00 FEET); THENCE N 88°41'03" E, 1320.15 FEET (RECORDED AS N 87°53'37" E, 1320.00 FEET); THENCE ALONG THE WEST RIGHT-OF-WAY LINE OF GRAND OAKS DRIVE, S 01°18'58" E, 330.96 FEET (RECORDED AS S 02°06'23" E, 331.00 FEET) TO THE POINT OF BEGINNING, CONTAINING 10.03 ACRES, MORE OR LESS, AND INCLUDING THE USE OF GRAND OAKS DRIVE. SUBJECT TO ANY EASEMENTS OR RESTRICTIONS OF RECORD.

**NOTE:**

THE LOCATIONS OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY AS DISCLOSED BY AVAILABLE UTILITY COMPANY RECORDS AND HAVE NOT BEEN INDEPENDENTLY VERIFIED BY THE COMPANY. NO GUARANTEE IS EITHER EXPRESSED OR IMPLIED AS TO THE COMPLETENESS OR ACCURACY THEREOF. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK, AND AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE OCCASIONED BY THE CONTRACTOR'S FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES. THE CONTRACTOR SHALL NOTIFY THE DESIGN ENGINEER IMMEDIATELY IF A CONFLICT IS APPARENT.

**NOTICE:**

CONSTRUCTION SITE SAFETY IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR NEITHER THE OWNER NOR THE ENGINEER SHALL BE EXPECTED TO ASSUME ANY RESPONSIBILITY FOR SAFETY OF THE WORK OF PERSONS ENGAGED IN THE WORK, OF ANY NEARBY STRUCTURES, OR OF ANY OTHER PERSONS.

**SHEET INDEX:**

- 1 COVER SHEET
- 2 TOPOGRAPHIC SURVEY
- 3 DEMOLITION PLAN
- 4 DIMENSION & PAVING PLAN
- 5A GRADING & SESC PLAN (EAST)
- 5B GRADING & SESC PLAN (WEST)
- 6 UTILITY AND STORM WATER MANAGEMENT PLAN
- 7 SITE DETAILS
- 8 TRUCK TURNING PLAN
- L-1 LANDSCAPE PLAN
- L-2 LANDSCAPE DETAILS
- A.101 FLOOR PLAN (MAIN LEVEL)
- A.102 FLOOR PLAN (MEZZANINE LEVEL)
- A.201 EXTERIOR ELEVATIONS
- SD.101 PHOTOMETRIC PLAN

**OWNER:**

TRUCK & TRAILER SPECIALTIES, INC.  
3286 HANNA LAKE INDUSTRIAL DRIVE  
DUTTON, MI 49316  
CONTACT: DANIEL BOUWMAN  
PHONE: (888) 200-8146

**APPLICANT:**

ACS BUILD, INC.  
28525 BECK ROAD, SUITE 118  
WIXOM, MI 48393  
CONTACT: KEN MCQUADE  
PHONE: (248) 348-9911

**ENGINEER/SURVEYOR:**

GREENTECH ENGINEERING, INC.  
51147 WEST PONTIAC TRIAL  
WIXOM, MI 48393  
CONTACT: JASON FLEIS, P.E.  
(248) 668-0700

CLIENT: ACS BUILD, INC.  
**COVER SHEET**  
GRAND OAKS DRIVE - PARCEL NO 4711-05-300-054  
SECTION: 5 TOWNSHIP: 2 N RANGE: 5 E  
CHARTER TOWNSHIP OF GENOA LIVINGSTON COUNTY MICHIGAN

REVISIONS  
2018-4-25 PER REVIEW

SEAL  
STATE OF MICHIGAN  
DANIEL BOUWMAN  
REGISTERED PROFESSIONAL ENGINEER

DATE: 4-4-2018  
DRAWN BY: RMS  
CHECKED BY: JMF

SCALE: HOR 1"=50 FT. VER 1"=5 FT.

1  
17-420



**NOT FOR CONSTRUCTION**

**SURVEY LEGEND**

- EX. SECTION CORNER
- FIB/FCI/FIP/MON
- EX. MAILBOX
- EX. SOIL BORE
- EX. SIGN
- EX. FIBER MARKER
- EX. SANITARY MANHOLE
- EX. CATCH BASIN
- EX. STORM MANHOLE
- EX. HYDRANT
- EX. GATE VALVE & WELL
- EX. WATER SHUT-OFF
- EX. LIGHT POLE
- EX. UTILITY POLE
- EX. PEDISTAL
- EX. HAND HOLE
- EX. UTILITY FLAG
- EX. COMMUNICATIONS
- EX. SANITARY SEWER
- EX. GAS LINE
- EX. WATER MAIN
- EX. OVERHEAD UTILITIES
- EX. FENCE
- EX. SWALE
- WETLAND BOUNDARY
- CONTOUR MAJOR
- CONTOUR MINOR
- EX. ZONING
- EX. TREELINE
- EX. CONIFEROUS
- EX. DECIDUOUS



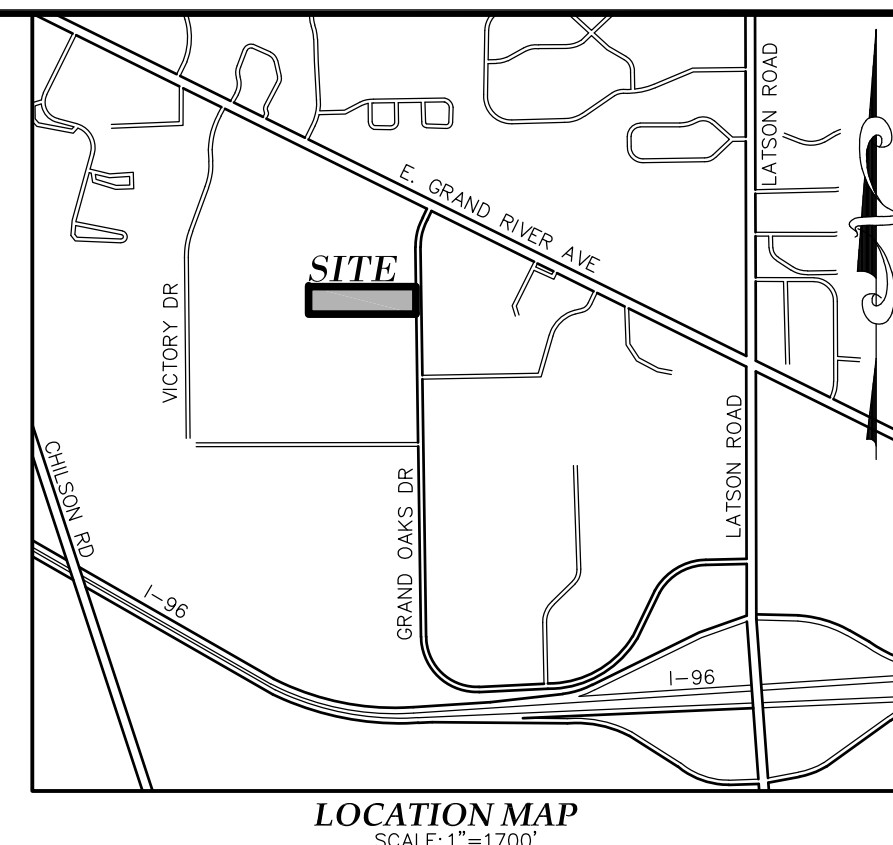
**FLOOD HAZARD STATEMENT:**

THIS PROPERTY IS LOCATED WITHIN A FEMA DESIGNATED ZONE "X" FLOOD HAZARD AREA AS SHOWN ON NATIONAL FLOOD INSURANCE PROGRAM (NFIP) FOR MICHIGAN FLOOD INSURANCE RATE MAP (FIRM) #26093C0309D (COMMUNITY ID NO. 260843 - TOWNSHIP OF GENOA, MI). PROPERTY IS LOCATED ON A PANEL THAT WAS NOT PRINTED. THIS STATEMENT IS BASED ON THE RESULTS OF GRAPHIC PLOTTING ONTO THE ABOVE NAMED MAP AND PANEL, WHICH IS THE CURRENT MAP FOR THE COMMUNITY IN WHICH THE PROPERTY IS LOCATED. ZONE "X" INDICATES AREAS DETERMINED TO BE OUTSIDE OF THE 0.2% ANNUAL CHANCE FLOODPLAIN.

**BENCHMARKS:**

**SITE BM #1**  
ARROW ON HYDRANT 35 FEET NORTH OF THE SOUTHEAST CORNER OF PARCEL #4711-05-300-054  
ELEVATION: 995.96  
DATUM (NAVD 88)

**SITE BM #2**  
ARROW ON HYDRANT 94 FEET NORTH OF THE NORTHEAST CORNER OF PARCEL #4711-05-300-054  
ELEVATION: 993.98  
DATUM (NAVD 88)



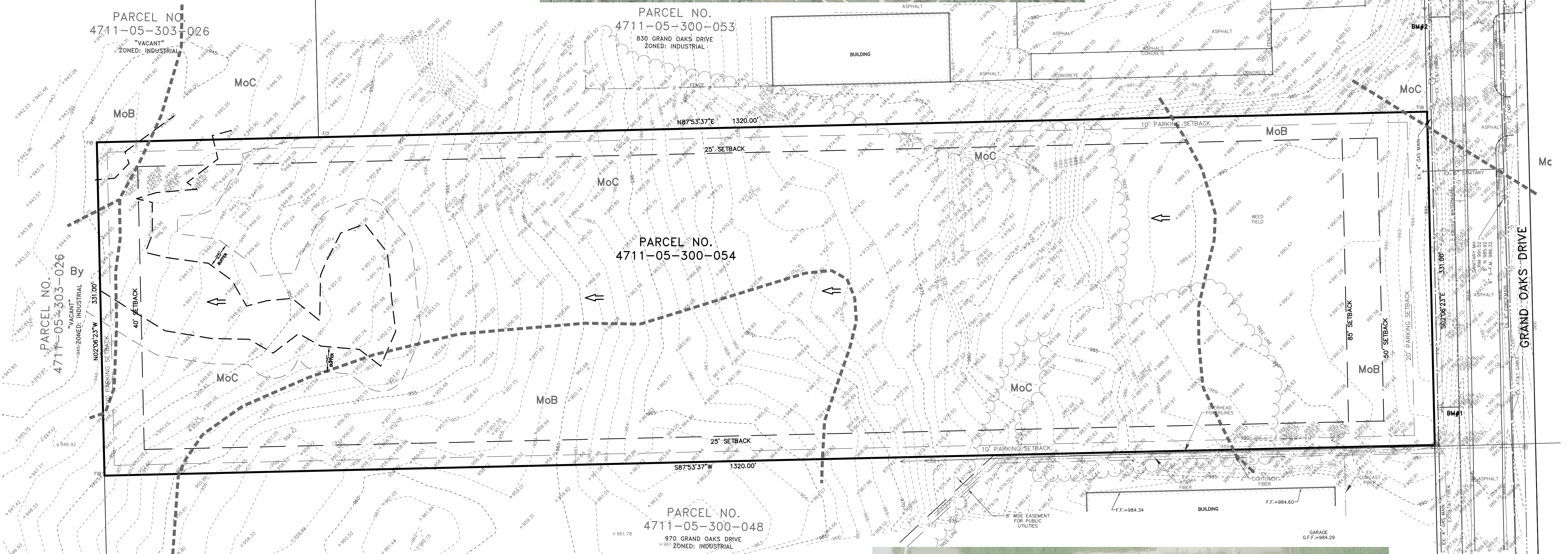
**GREENTECH ENGINEERING, INC.**  
CIVIL ENGINEERS & LAND SURVEYORS  
51111 W. Pentacore Trail, Wixom, MI 48393  
Phone: (248) 668-0700 Fax: (248) 668-0701



Know what's below  
Call before you dig.

**TOPOGRAPHIC SURVEY**  
GRAND OAKS DRIVE - PARCEL NO. 4711-05-300-054  
SECTION: 5 CHARTER TOWNSHIP OF GENOA  
LIVINGSTON COUNTY MICHIGAN

CLIENT: ACS BUILD, INC.  
REVISED  
DATE: 4-4-2018  
DRAWN BY: TSL  
CHECKED BY: JPP  
FBK: --  
CHF: MM  
SCALE: HOR 1"=50 FT.  
VER 1"=-- FT.  
17-420



**DESCRIPTION: PARCEL #4711-05-300-054**

PART OF THE SOUTHWEST 1/4 OF SECTION 5, T2N-R5E, GENOA TOWNSHIP, LIVINGSTON COUNTY, MICHIGAN, BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS: COMMENCING AT THE SOUTH 1/4 CORNER OF SAID SECTION 5; THENCE ALONG THE SOUTH LINE OF SECTION 5, S 88°01'06" W, 497.04 FEET (RECORDED AS S 87°12'58" W, 496.99 FEET); THENCE ALONG THE WEST RIGHT-OF-WAY LINE OF GRAND OAKS DRIVE (100'-FOOT WIDE), N 01°19'59" W, 1025.95 FEET (RECORDED AS N 02°06'23" W, 1026.06 FEET); TO THE POINT OF BEGINNING OF THE PARCEL TO BE DESCRIBED; THENCE S 88°40'50" W, 1320.04 FEET (RECORDED AS S 87°53'37" W, 1320.00 FEET); THENCE ALONG THE EAST LINE OF GRAND OAKS WEST INDUSTRIAL PARK, A SUBDIVISION RECORDED IN LIBER 30 OF PLATS, PAGES 1 THROUGH 5, LIVINGSTON COUNTY RECORDS, N 01°20'08" W, 331.04 FEET (RECORDED AS N 02°06'23" W, 331.00 FEET); THENCE N 88°41'03" E, 1320.15 FEET (RECORDED AS N 87°53'37" E, 1320.00 FEET); THENCE ALONG THE WEST RIGHT-OF-WAY LINE OF GRAND OAKS DRIVE, S 01°18'58" E, 330.96 FEET (RECORDED AS S 02°06'23" E, 331.00 FEET) TO THE POINT OF BEGINNING, CONTAINING 10.03 ACRES, MORE OR LESS, AND INCLUDING THE USE OF GRAND OAKS DRIVE. SUBJECT TO ANY EASEMENTS OR RESTRICTIONS OF RECORD.

**ZONING:**

INDUSTRIAL DISTRICT

**SETBACKS:**

FRONT: 50 OR 85 FEET  
EAST SIDE: 25 FEET  
WEST SIDE: 25 FEET  
REAR: 40 FEET

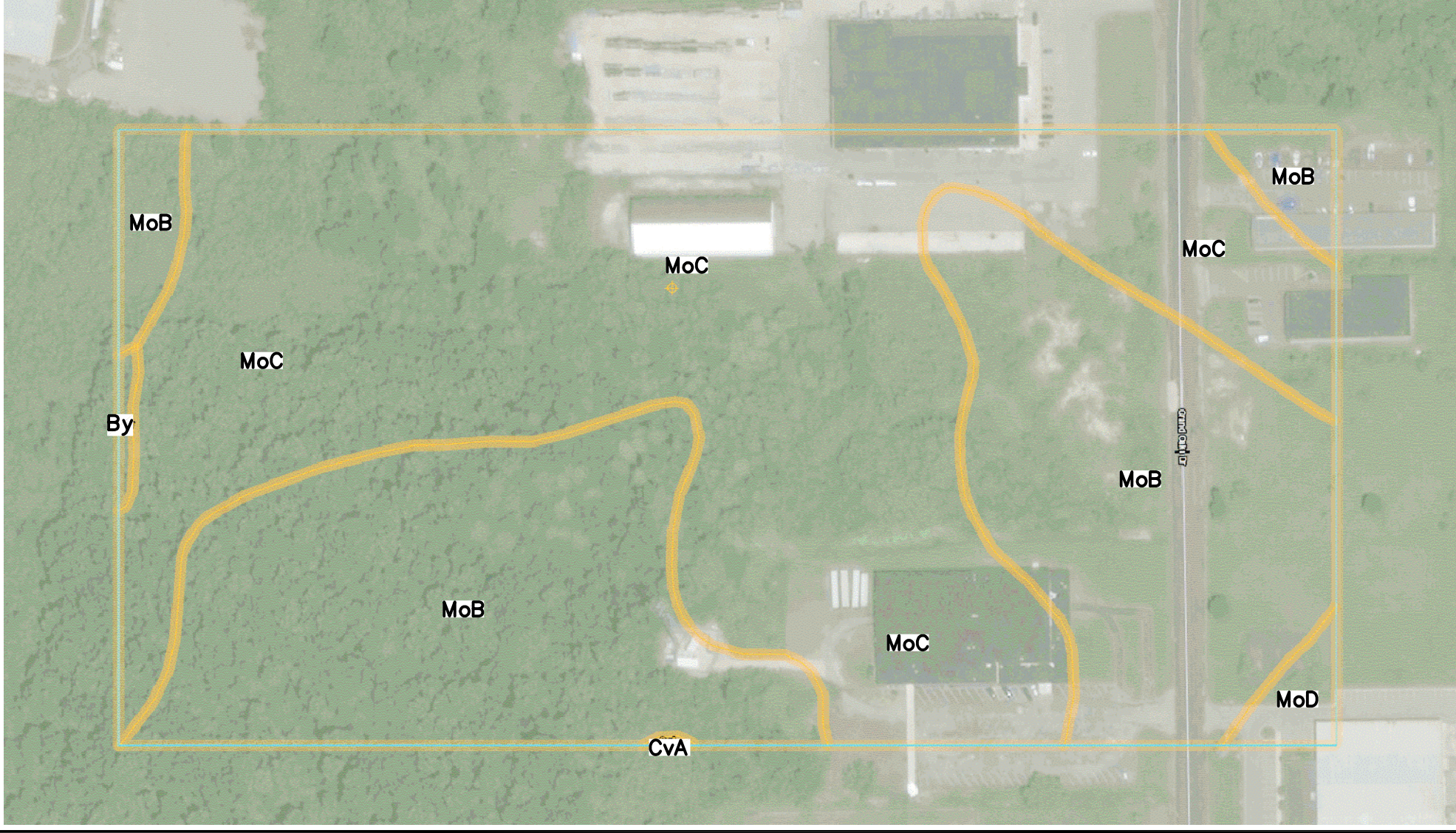
**SURVEY NOTES:**

- PARTIAL TITLE WORK WAS PROVIDED (BY OWNER). PERTINENT EASEMENTS AS LISTED BELOW.
- BEARINGS ARE BASED ON MICHIGAN STATE PLANE COORDINATE SYSTEM (SOUTH ZONE).
- GROUND WAS SNOW COVERED AT TIME OF SURVEY.

**TITLE COMMITMENT NOTES:**

- SCHEDULE B II EXCEPTIONS FROM VANGUARD TITLE COMPANY, FILE NUMBER VGL208036.
- OIL, GAS AND/OR MINERAL INTERESTS GRANTED OR RESERVED BY INSTRUMENT RECORDED IN LIBER 778, PAGE 192, LIVINGSTON COUNTY RECORDS AND ANY SUBSEQUENT INSTRUMENTS PERTINENT THERETO. (BLANKET EASEMENT, NOTHING TO PLOT)
  - AFFIDAVIT OF PIPE LINE LOCATION BY PANHANDLE EASTERN PIPE LINE COMPANY LIBER 1598, PAGE 437, LIVINGSTON COUNTY RECORDS. (BLANKET EASEMENT, NOTHING TO PLOT)
  - GRANT OF RIGHT OF WAY IN FAVOR OF PANHANDLE EASTERN PIPE LINE COMPANY AS DISCLOSED BY INSTRUMENT(S) RECORDED IN LIBER456, PAGE 618, LIVINGSTON COUNTY RECORDS. (BLANKET EASEMENT, NOTHING TO PLOT)

Map Unit Symbol	Map Unit Name	Acres in AOT	Percent of AOT
By	Brookston loam, 0 to 2 percent slopes	0.1	0.3%
CvA	Coveter loam, 0 to 2 percent slopes	0.0	0.0%
MoB	Miami loam, 2 to 6 percent slopes	12.3	43.5%
MoC	Miami loam, 6 to 12 percent slopes	15.6	55.1%
MoD	Miami loam, 12 to 18 percent slopes	0.3	1.1%
<b>Totals for Area of Interest</b>		<b>28.3</b>	<b>100.0%</b>



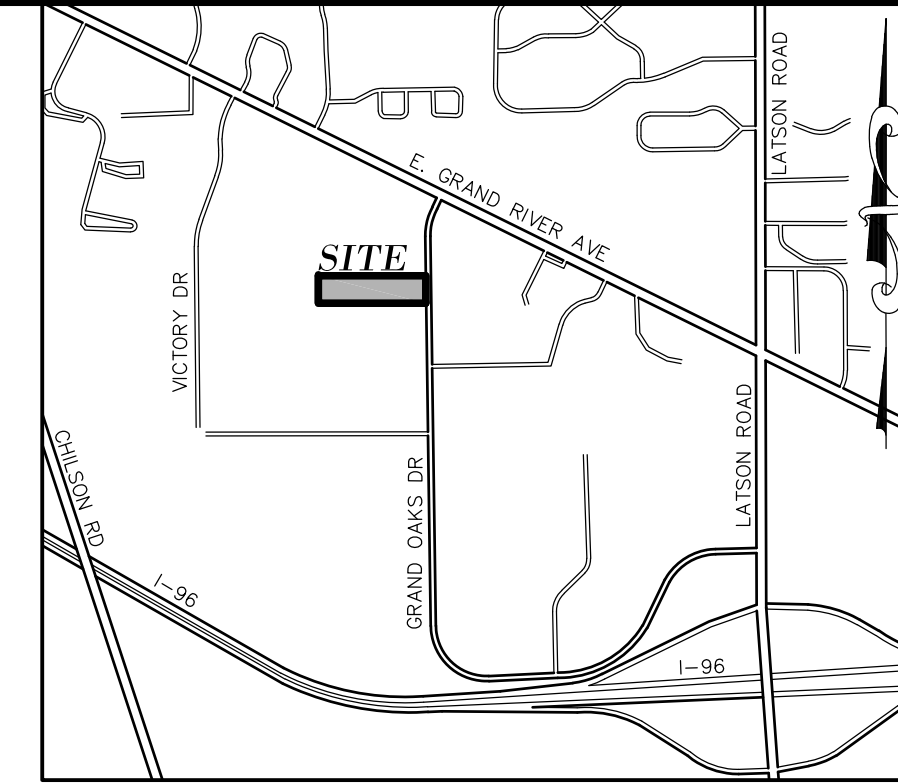
C:\Users\jbrand\Documents\GreenTech\Projects\4711-05-300-054\4711-05-300-054.dwg, 4/22/2018, 1:22:23 PM



**BENCHMARKS:**

**SITE BM #1**  
 ARROW ON HYDRANT 35 FEET  
 NORTH OF THE SOUTHEAST CORNER  
 OF PARCEL #4711-05-300-054  
 ELEVATION: 995.96  
 DATUM (NAVD 88)

**SITE BM #2**  
 ARROW ON HYDRANT 94 FEET  
 NORTH OF THE NORTHEAST CORNER  
 OF PARCEL #4711-05-300-054  
 ELEVATION: 993.98  
 DATUM (NAVD 88)



PARCEL NO.  
 4711-05-303-026  
 "VACANT"  
 ZONED: INDUSTRIAL

PARCEL NO.  
 4711-05-300-053  
 830 GRAND OAKS DRIVE  
 ZONED: INDUSTRIAL

PARCEL NO.  
 4711-05-300-054

PARCEL NO.  
 4711-05-303-026  
 "VACANT"  
 ZONED: INDUSTRIAL

PARCEL NO.  
 4711-05-300-048  
 970 GRAND OAKS DRIVE  
 ZONED: INDUSTRIAL

**DEMOLITION NOTES:**

- THESE NOTES APPLY TO ALL CONSTRUCTION ACTIVITIES ON THIS PROJECT:
- ALL MATERIAL TO BE REMOVED, WHETHER SPECIFICALLY NOTED IN THE PLANS OR NOT, SHALL BE REMOVED FROM THE SITE BY THE CONTRACTOR AND DISPOSED OF OFF-SITE IN A LEGAL MANNER. NO ON-SITE BURY OR BURN PITS SHALL BE ALLOWED.
  - ALL DEMOLITION WORK SHALL CONFORM TO ALL LOCAL CODES AND ORDINANCES.
  - STAGING/PHASING OF DEMOLITION AND CONSTRUCTION IS TO BE COORDINATED WITH THE OWNER AND THE CONTRACTOR PRIOR TO CONSTRUCTION.
  - SPECIFIC DEMOLITION ITEMS HAVE BEEN INDICATED ON THE PLANS AS A GUIDE TO THE GENERAL SCOPE OF THE WORK. IT IS THE INTENT THAT THESE ITEMS SHALL BE COMPLETELY REMOVED BY THE CONTRACTOR ABOVE AND BELOW GROUND, UNLESS SPECIFICALLY NOTED OTHERWISE, AND THAT DEMOLITION WILL INCLUDE BUT WILL NOT NECESSARILY BE LIMITED TO THESE ITEMS. CONTRACTOR SHALL VISIT SITE TO VERIFY EXISTING CONDITIONS AND EXTENTS OF THE DEMOLITION THAT WILL BE REQUIRED PRIOR TO SUBMITTING A BID.
  - REMOVE ALL STRUCTURES DESIGNATED FOR REMOVAL ACCORDING TO THE DEMOLITION PLAN. THIS INCLUDES FOUNDATIONS, FOOTINGS, FOUNDATION WALLS, FLOOR SLABS, UNDERGROUND UTILITIES, CONCRETE, ASPHALT, TREES, ETC.
  - REFER TO LANDSCAPE PLANS FOR TREE PROTECTION DETAILS.
  - THE CONTRACTOR SHALL, AS A MINIMUM, PROVIDE TREE PROTECTION FENCING AROUND EXISTING TREES TO BE SAVED THAT ARE WITHIN 15' OF CONSTRUCTION ACTIVITIES AND AS INDICATED IN THE PLANS OR PER LOCAL AGENCY REQUIREMENTS.
  - THE CONTRACTOR SHALL BE RESPONSIBLE FOR CLEAN UP, NOISE, DUST CONTROL, STREET SWEEPING AND HOURS OF OPERATION IN ACCORDANCE WITH THE LOCAL CODES.
  - THE CONTRACTOR SHALL PROVIDE ALL NECESSARY BARRICADES, SIGNAGE, MARKINGS, LIGHTS AND OTHER TRAFFIC CONTROL DEVICES TO PROTECT THE WORK ZONE AND SAFELY MAINTAIN TRAFFIC PER AGENCY REQUIREMENTS AND IN ACCORDANCE WITH THE MICHIGAN MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (MMUTCD) LATEST EDITION.
  - THE CONTRACTOR SHALL CONTACT THE APPROPRIATE UTILITY COMPANIES TO CONFIRM THAT UTILITY LEADS HAVE BEEN TAKEN OUT OF SERVICE PRIOR TO DEMOLITION.
  - ALL BUILDING GAS LEADS, METERS AND ASSOCIATED EQUIPMENT SHALL BE REMOVED AS SHOWN ON THE PLANS. COORDINATE ALL ASSOCIATED WORK WITH THE APPROPRIATE UTILITY COMPANY.
  - REMOVE ALL OVERHEAD AND UNDERGROUND ELECTRICAL LINES WITHIN THE AREA OF CONSTRUCTION AS SHOWN ON THE PLANS. COORDINATE SHUTDOWNS AND REMOVALS WITH DETROIT EDISON OR THE APPROPRIATE UTILITY COMPANY. (NOTE: PHONE AND CABLE T.V. SERVICES MAY ALSO BE LOCATED ON OVERHEAD LINES.)
  - THE CONTRACTOR IS RESPONSIBLE FOR THE REMOVAL AND REPLACEMENT OF SIGNS AND SUPPORTS WITHIN THE WORK AREA, AS NECESSARY TO FACILITATE CONSTRUCTION. SIGNS SHALL BE PROTECTED OR STOCKPILED FOR REUSE AS SPECIFIED IN THE PLANS OR AS REQUIRED BY THE AGENCY OF JURISDICTION. THE CONTRACTOR SHALL REPLACE ANY DAMAGED SIGNS AND SUPPORTS AT NO ADDITIONAL COST TO THE OWNER.
  - THE CONTRACTOR SHALL NOTIFY MISS DIG, GENOA TOWNSHIP ENGINEER AND/OR THE AUTHORITY HAVING JURISDICTION 3 BUSINESS DAYS PRIOR TO THE BEGINNING OF CONSTRUCTION.

**NOTE:**  
 THE LOCATIONS OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY AS DISCLOSED BY AVAILABLE UTILITY COMPANY RECORDS AND HAVE NOT BEEN INDEPENDENTLY VERIFIED BY THE COMPANY. NO GUARANTEE IS EITHER EXPRESSED OR IMPLIED AS TO THE COMPLETENESS OR ACCURACY THEREOF. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK, AND AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE OCCASIONED BY THE CONTRACTOR'S FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES. THE CONTRACTOR SHALL NOTIFY THE DESIGN ENGINEER IMMEDIATELY IF A CONFLICT IS APPARENT.

**CAUTION!!!**  
 EXISTING GAS MAIN PRESENT WITHIN INFLUENCE OF WORK AREA. CONTRACTOR TO LOCATE AND PROTECT DURING CONSTRUCTION.

**CAUTION!!!**  
 EXISTING FIBER-OPTIC LINE PRESENT WITHIN INFLUENCE OF WORK AREA. CONTRACTOR TO LOCATE AND PROTECT DURING CONSTRUCTION.

**CAUTION!!!**  
 12" WATER MAIN PRESENT WITHIN INFLUENCE OF WORK AREA. CONTRACTOR TO LOCATE AND PROTECT DURING CONSTRUCTION.

**CAUTION!!!**  
 FULL DEPTH SAWCUT EXISTING PAVEMENT TO PROVIDE CLEAN EDGE FOR PROPOSED ENTRANCE.

**CAUTION!!!**  
 PROTECT EXISTING UTILITY FEATURES DURING CONSTRUCTION (UTILITY POLES, HYDRANTS, OVERHEAD LINES, TELEPHONE EQUIPMENT, ETC.).

REMOVE ALL TREES, VEGETATION, AND TOPSOIL WITHIN LIMITS OF DISTURBANCE

REMOVE ALL TREES AND VEGETATION WITHIN LIMITS OF DISTURBANCE. DO NOT DISTURB EARTH.

NO WORK WITHIN THE 25' BUFFER AREA

REMOVE ALL TREES, VEGETATION, AND TOPSOIL WITHIN LIMITS OF DISTURBANCE

**CAUTION!!!**  
 UNDERGROUND FIBER-OPTIC UTILITIES PRESENT WITHIN INFLUENCE OF WORK AREA. LOCATE AND PROTECT DURING CONSTRUCTION.

DEMOLITION LEGEND:	
ITEM TO BE REMOVED	
ASPHALT TO BE MILLED IN PLACE FULL DEPTH. MILLINGS TO BE MIXED WITH EXISTING SUBBASE MATERIAL	
ASPHALT REMOVAL	
CONCRETE PAVEMENT AND SIDEWALK REMOVAL	
GRAVEL REMOVAL	

**GREENTECH ENGINEERING, INC.**  
 CIVIL ENGINEERS & LAND SURVEYORS  
 51147 W. Pontiac Trail, Wixom, MI 48393  
 Phone: (248) 668-0700 Fax: (248) 668-0701

**811**  
 Know whats Below  
 Call before you dig.

CLIENT: ACS BUILD, INC.  
**DEMOLITION PLAN**  
 GRAND OAKS DRIVE - PARCEL NO 4711-05-300-054  
 SECTION: 5 TOWNSHIP: 2 N RANGE: 5 E.  
 CHARTER TOWNSHIP OF GENOA  
 LIVINGSTON COUNTY  
 MICHIGAN

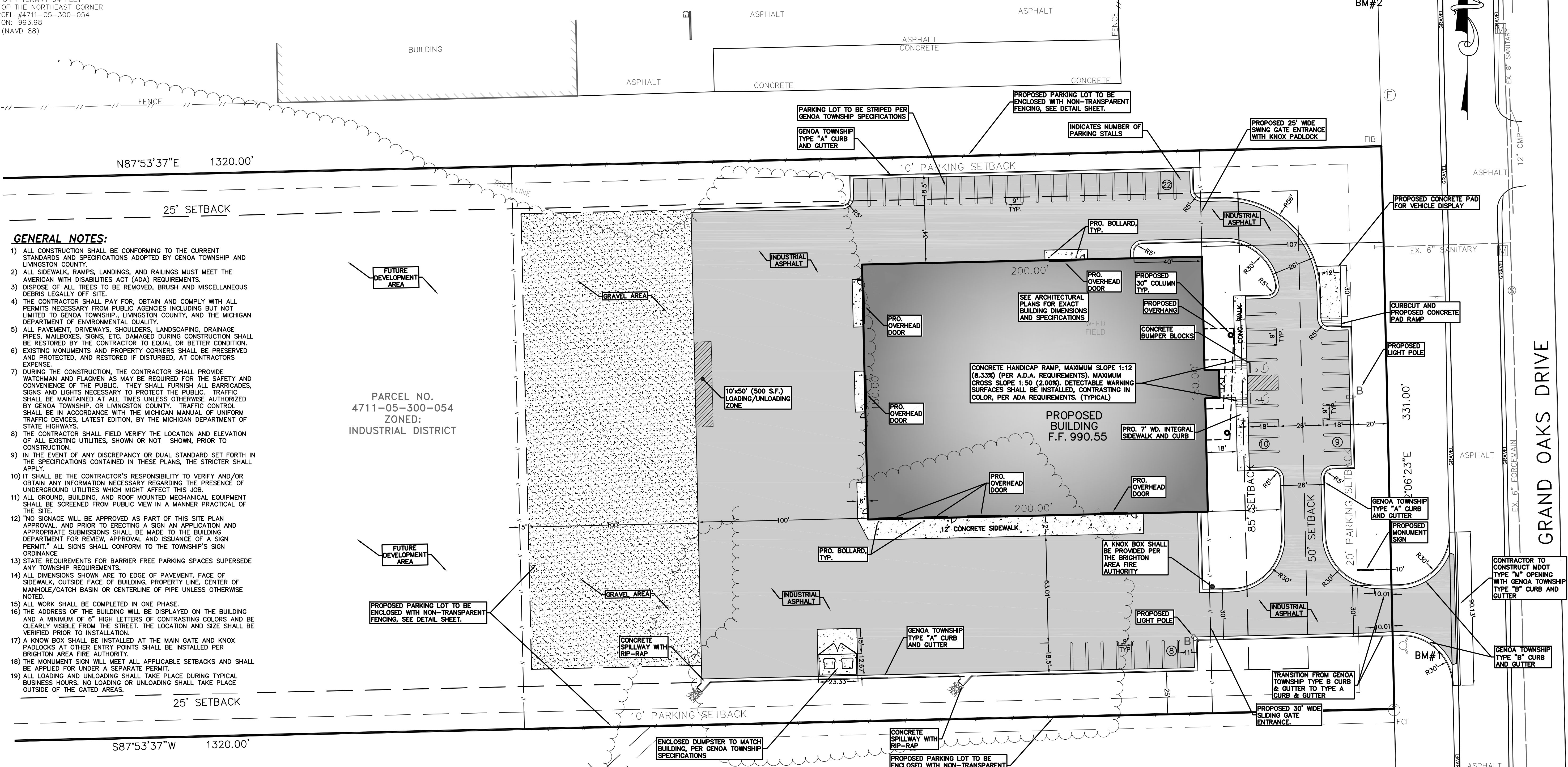
REVISED	
2018-4-24 PER REVIEW	
DATE: 4-4-2018	
DRAWN BY: RMS	
CHECKED BY: JMF	
FBK: ---	
CHF: MM	
SCALE: HOR 1"=50 FT. VER 1"= 10 FT.	
	<b>3</b>
	17-420

**NOT FOR CONSTRUCTION**

**BENCHMARKS:**

**SITE BM #1**  
 ARROW ON HYDRANT 35 FEET  
 NORTH OF THE SOUTHEAST CORNER  
 OF PARCEL #4711-05-300-054  
 ELEVATION: 995.96  
 DATUM (NAVD 88)

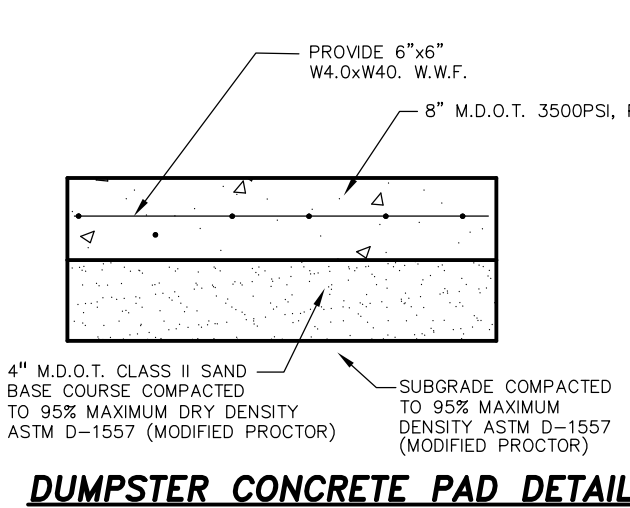
**SITE BM #2**  
 ARROW ON HYDRANT 94 FEET  
 NORTH OF THE NORTHEAST CORNER  
 OF PARCEL #4711-05-300-054  
 ELEVATION: 993.98  
 DATUM (NAVD 88)



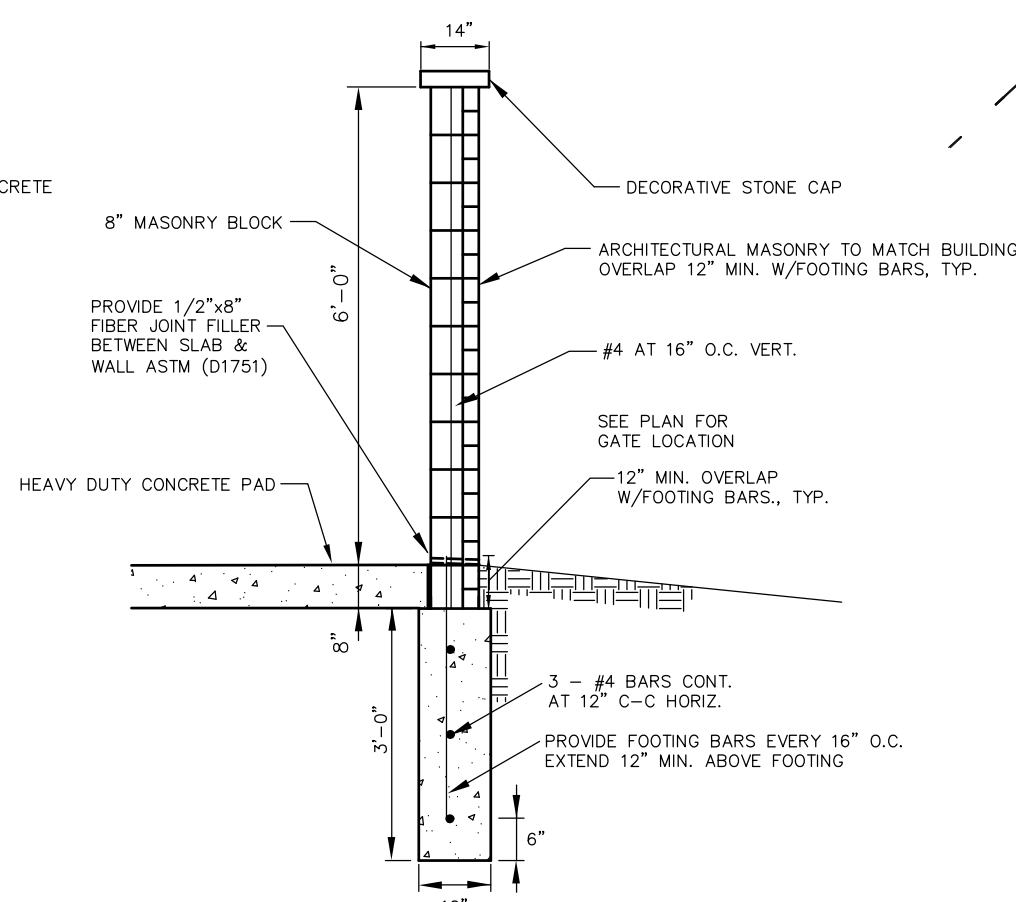
**GENERAL NOTES:**

- 1) ALL CONSTRUCTION SHALL BE CONFORMING TO THE CURRENT STANDARDS AND SPECIFICATIONS ADOPTED BY GENOA TOWNSHIP AND LIVINGSTON COUNTY.
- 2) ALL SIDEWALK, RAMPS, LANDINGS, AND RAILINGS MUST MEET THE AMERICAN WITH DISABILITIES ACT (ADA) REQUIREMENTS.
- 3) DISPOSE OF ALL TREES TO BE REMOVED, BRUSH AND MISCELLANEOUS DEBRIS LEGALLY OFF SITE.
- 4) THE CONTRACTOR SHALL PAY FOR, OBTAIN AND COMPLY WITH ALL PERMITS NECESSARY FROM PUBLIC AGENCIES INCLUDING BUT NOT LIMITED TO GENOA TOWNSHIP, LIVINGSTON COUNTY, AND THE MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY.
- 5) ALL PAVEMENT, DRIVEWAYS, SHOULDERS, LANDSCAPING, DRAINAGE PIPES, MAILBOXES, SIGNS, ETC. DAMAGED DURING CONSTRUCTION SHALL BE RESTORED BY THE CONTRACTOR TO EQUAL OR BETTER CONDITION. EXISTING MONUMENTS AND PROPERTY CORNERS SHALL BE PRESERVED AND PROTECTED, AND RESTORED IF DISTURBED, AT CONTRACTOR'S EXPENSE.
- 6) DURING THE CONSTRUCTION, THE CONTRACTOR SHALL PROVIDE WATCHMAN AND FLAGMEN AS MAY BE REQUIRED FOR THE SAFETY AND CONVENIENCE OF THE PUBLIC. THEY SHALL FURNISH ALL BARRICADES, SIGNS AND LIGHTS NECESSARY TO PROTECT THE PUBLIC. TRAFFIC SHALL BE MAINTAINED AT ALL TIMES UNLESS OTHERWISE AUTHORIZED BY GENOA TOWNSHIP OR LIVINGSTON COUNTY. TRAFFIC CONTROL SHALL BE IN ACCORDANCE WITH THE MICHIGAN MANUAL OF UNIFORM TRAFFIC DEVICES, LATEST EDITION, BY THE MICHIGAN DEPARTMENT OF STATE HIGHWAYS.
- 7) THE CONTRACTOR SHALL FIELD VERIFY THE LOCATION AND ELEVATION OF ALL EXISTING UTILITIES, SHOWN OR NOT SHOWN, PRIOR TO CONSTRUCTION.
- 8) IN THE EVENT OF ANY DISCREPANCY OR DUAL STANDARD SET FORTH IN THE SPECIFICATIONS CONTAINED IN THESE PLANS, THE STRICTER SHALL APPLY.
- 9) IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO VERIFY AND/OR OBTAIN ANY INFORMATION NECESSARY REGARDING THE PRESENCE OF UNDERGROUND UTILITIES WHICH MIGHT AFFECT THIS JOB.
- 10) ALL GROUND, BUILDING, AND ROOF MOUNTED MECHANICAL EQUIPMENT SHALL BE SCREENED FROM PUBLIC VIEW IN A MANNER PRACTICAL OF THE SITE.
- 11) "NO SIGNAGE WILL BE APPROVED AS PART OF THIS SITE PLAN APPROVAL, AND PRIOR TO ERECTING A SIGN AN APPLICATION AND APPROPRIATE SUBMISSIONS SHALL BE MADE TO THE BUILDING DEPARTMENT FOR REVIEW, APPROVAL AND ISSUANCE OF A SIGN PERMIT." ALL SIGNS SHALL CONFORM TO THE TOWNSHIP'S SIGN ORDINANCE.
- 12) STATE REQUIREMENTS FOR BARRIER FREE PARKING SPACES SUPERSEDE ANY TOWNSHIP REQUIREMENTS.
- 13) ALL DIMENSIONS SHOWN ARE TO EDGE OF PAVEMENT, FACE OF SIDEWALK, OUTSIDE FACE OF BUILDING, PROPERTY LINE, CENTER OF MANHOLE/CATCH BASIN OR CENTERLINE OF PIPE UNLESS OTHERWISE NOTED.
- 14) ALL WORK SHALL BE COMPLETED IN ONE PHASE.
- 15) THE ADDRESS OF THE BUILDING WILL BE DISPLAYED ON THE BUILDING AND A MINIMUM OF 6" HIGH LETTERS OF CONTRASTING COLORS AND BE CLEARLY VISIBLE FROM THE STREET. THE LOCATION AND SIZE SHALL BE VERIFIED PRIOR TO INSTALLATION.
- 16) A KNOW BOX SHALL BE INSTALLED AT THE MAIN GATE AND KNOW PADLOCKS AT OTHER ENTRY POINTS SHALL BE INSTALLED PER BRIGHTON AREA FIRE AUTHORITY.
- 17) THE MONUMENT SIGN WILL MEET ALL APPLICABLE SETBACKS AND SHALL BE APPLIED FOR UNDER A SEPARATE PERMIT.
- 18) ALL LOADING AND UNLOADING SHALL TAKE PLACE DURING TYPICAL BUSINESS HOURS. NO LOADING OR UNLOADING SHALL TAKE PLACE OUTSIDE OF THE GATED AREAS.

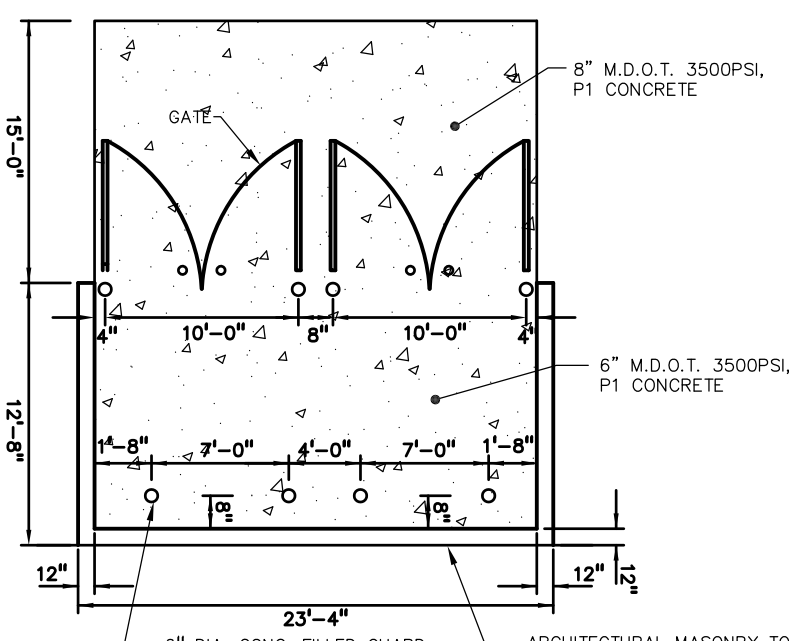
PARCEL NO.  
 4711-05-300-054  
 ZONED:  
 INDUSTRIAL DISTRICT



**DUMPSTER CONCRETE PAD DETAIL**



**DUMPSTER ENCLOSURE WALL CROSS SECTION**



**DOUBLE DUMPSTER ENCLOSURE DETAIL**

**HATCH LEGEND**

- INDUSTRIAL ASPHALT
- GRAVEL
- CONCRETE
- PROPOSED BUILDING
- EXISTING BUILDING

**CURRENT ZONING:**

INDUSTRIAL DISTRICT

**BUILDING SETBACKS:**

FRONT: 50 FEET (85' WITH PARKING IN FRONT)  
 REAR: 40 FEET (80' ADJACENT TO RESIDENTIAL)  
 SIDES: 25 FEET (50' ADJACENT TO RESIDENTIAL) PER GENOA TOWNSHIP ORDINANCE

**PARKING SETBACKS:**

FRONT: 20 FEET  
 REAR: 10 FEET  
 SIDES: 10 FEET  
 PER GENOA TOWNSHIP ORDINANCE

**SITE AREA:**

TOTAL ACRES: 10.03 ACRES (436,920 SF)  
 IMPERVIOUS AREA: 124,299 SF  
 PERCENT IMPERVIOUS COVERAGE: 28.4%

**WOODLANDS NOTES:**

1. ONSITE SOILS ARE AS FOLLOWS (PER U.S. SOIL SURVEY)  
 M08 MIAMI LOAM, 2 TO 6% SLOPES  
 M06 MIAMI LOAM, 6 TO 12% SLOPES

GARAGE  
 G.F.F.=984.29

**PARKING DATA:**

PROPOSED PARKING REQUIRED:  
 1 SPACE / 300 S.F. (OFFICE)  
 1 SPACE / 300 S.F. \* 4,400 SF = 14.7 = 15 SPACES REQUIRED  
 1.2 SPACES / EMPLOYEE @ PEAK  
 1.2 SPACES \* 20 EMPLOYEES @ PEAK = 24 SPACES REQUIRED  
 1 SPACE / CORPORATION VEHICLE  
 1 SPACE \* 1 CORPORATION VEHICLE = 1 SPACES REQUIRED  
 TOTAL PARKING REQUIRED: 40 SPACES, 2 BARRIER-FREE  
 TOTAL PARKING PROVIDED: 49 SPACES, 2 BARRIER-FREE

**WETLANDS NOTES:**

1. WETLAND BOUNDARIES LOCATED AND DELINEATED BY OTHERS. REFER TO REPORT BY BROOKS WILLIAMSON DATED: APRIL 2, 2018.
2. WETLANDS TO BE PROTECTED WITH SOIL EROSION CONTROL MEASURES DURING CONSTRUCTION. SEDIMENT BASIN SHALL TREAT RUNOFF PRIOR TO DRAINING TO WETLAND PRIOR TO PROJECT CONSTRUCTION.

**NOTE:**

THE LOCATIONS OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY AS DISCLOSED BY AVAILABLE UTILITY COMPANY RECORDS AND HAVE NOT BEEN INDEPENDENTLY VERIFIED BY THE COMPANY. NO GUARANTEE IS EITHER EXPRESSED OR IMPLIED AS TO THE COMPLETENESS OR ACCURACY THEREOF. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK, AND AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE OCCASIONED BY THE CONTRACTOR'S FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES. THE CONTRACTOR SHALL NOTIFY THE DESIGN ENGINEER IMMEDIATELY IF A CONFLICT IS APPARENT.

**GREENTECH ENGINEERING, INC.**  
 CIVIL ENGINEERS & LAND SURVEYORS  
 51147 W. Pontiac Trail, Wixom, MI 48393  
 Phone: (248) 668-0700 Fax: (248) 668-0701

**811**  
 Know what's Below  
 Call before you dig.

**DIMENSION & PAVING PLAN**  
 CLIENT: ACS BUILD, INC.  
 GRAND OAKS DRIVE - PARCEL NO 4711-05-300-054  
 TOWNSHIP: 2 N  
 RANGE: 5 E  
 SECTION: 5  
 CHARTER TOWNSHIP OF GENOA  
 LIVINGSTON COUNTY  
 MICHIGAN

REVISIONS  
 2018-4-25 PER REVIEW

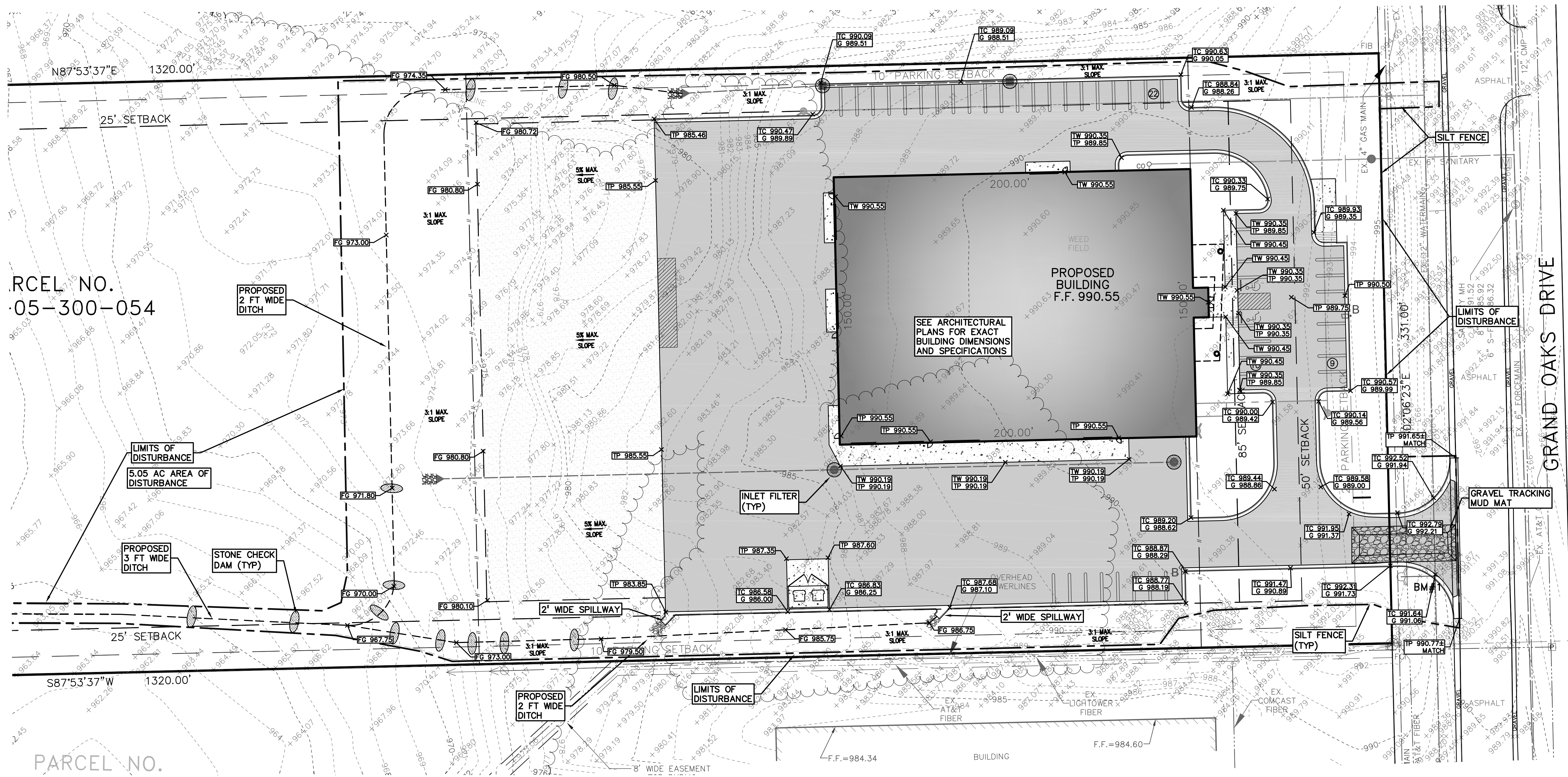
DATE: 4-4-2018  
 DRAWN BY: RMS  
 CHECKED BY: JMF

SCALE: HOR 1"=30 FT.  
 VER 1"=4 FT.

4

17-420

**NOT FOR CONSTRUCTION**



RCEL NO.  
05-300-054

PARCEL NO.

**LEGEND**

- |     |                     |   |                             |
|-----|---------------------|---|-----------------------------|
| --- | EXISTING STORM      | ● | PROP. CATCH BASIN           |
| --- | EXISTING WATER MAIN | ● | PROP. MANHOLE               |
| --- | EXISTING SANITARY   | ● | PROP. END SECTION           |
| --- | EXISTING GAS        | ● | PROP. SANITARY CLEANOUT     |
| --- | FD. IRON PIPE/ROD   | ● | PROP. ROW                   |
| --- | UTILITY POLE        | ● | PROP. STORM SEWER           |
| ○   | EX. MANHOLE         | ● | PROP. SANITARY SEWER        |
| ○   | EX. CATCH BASIN     | ● | PROP. WATER MAIN            |
| ○   | EX. CLEAN OUT       | ● | PROP. GATE VALVE            |
| ○   | EX. HYDRANT         | ● | PROP. HYDRANT               |
| +   | EX. WATER SHUTOFF   | ● | DOWNSPOUT CONNECTION        |
| ☆   | EX. LIGHT POLE      | ● | SURFACE DISCHARGE DOWNSPOUT |
| △   | EX. END SECTION     | ● | EXISTING RIGHT-OF-WAY       |
| ▽   | EX. SIGN            | ● | PROPOSED RIGHT-OF-WAY       |

- GRADING AND DRAINAGE LEGEND:**
- 725.00' + PROPOSED SPOT GRADE ELEVATION
- TP = TOP OF PAVEMENT  
TW = TOP OF WALK  
TC = TOP OF CURB  
G = GUTTER  
FG = FINISH GRADE  
FF = FINISH FLOOR  
→ = OVERLAND FLOW DIRECTION

- SOIL EROSION LEGEND**
- INLET FILTER    --- SILT FENCE
- STONE CHECK DAM

**GRADING NOTES**

- SUBGRADE PREPARATION FOR PAVEMENT AND UTILITIES SHALL BE MONITORED BY A GEOTECHNICAL ENGINEER.
- ACCEPTABLE MATERIAL FROM UNDERCUTTING MAY BE USED AS ENGINEERED FILL AS APPROVED BY SOILS ENGINEER.
- CONTRACTOR SHALL TEMPORARILY STOCKPILE TOP SOIL TO BE USED FOR FINAL GRADING.
- REMOVE ANY EXISTING TOPSOIL, ORGANIC SOILS, VEGETATION, TREES AND OTHER DELETERIOUS MATERIALS TO EXPOSE THE SUBGRADE. TREES SHOULD BE COMPLETELY REMOVED.
- THE TOP 12 INCHES OF THE EXPOSED SUBGRADE AS WELL AS INDIVIDUAL FILL LAYERS SHOULD BE COMPACTED TO ACHIEVE A 95% COMPACTION LEVEL. (MODIFIED PROCTOR - ASTM D1557).
- THE FINAL SUBGRADE SHOULD BE THOROUGHLY PROFFROLLED USING A FULLY LOADED TANDEM AXLE TRUCK UNDER THE OBSERVATION OF A GEOTECHNICAL/PAVEMENT ENGINEER. LOOSE OR YIELDING AREAS THAT CAN NOT BE MECHANICALLY STABILIZED SHOULD BE REMOVED AND REPLACED WITH ENGINEERED FILL.
- THE AGGREGATE BASE SHOULD BE COMPACTED TO ACHIEVE A 95% PERCENT COMPACTION LEVEL. (MODIFIED PROCTOR - ASTM D1557). THE BASE AND SUBGRADE COMPACTION SHOULD EXTEND A MINIMUM OF 1 FOOT BEYOND THE PAVED EDGE.
- ALL BITUMINOUS MATERIAL SHOULD BE COMPACTED TO A DENSITY OF 97% OF THE MAXIMUM DENSITY AS DETERMINED BY THE MARSH METHOD.
- SAWCUT AND REMOVE EXISTING CURBS AND PAVEMENT AS NECESSARY FOR CONSTRUCTION.
- FIELD VERIFY EXISTING PAVEMENT AND CURB ELEVATIONS WHERE PROPOSED PAVEMENT AND CURB MEETS EXISTING PAVEMENT AND CURB PRIOR TO CONSTRUCTION. PAVING CONTRACTOR SHALL TAKE EXTRA CARE TO ENSURE 1% MINIMUM PAVEMENT SLOPE IS ACHIEVED AND SHALL CONTACT DESIGN ENGINEER PRIOR TO CONSTRUCTION IF A CONFLICT IS APPARENT.
- ADJUST MANHOLE COVERS AS REQUIRED TO MATCH FINAL GRADES AND PROVIDE POSITIVE DRAINAGE.

**RESTORATION NOTE:**

THE CONTRACTOR SHALL RESTORE AREAS DISTURBED FROM HIS CONSTRUCTION OPERATIONS TO THEIR ORIGINAL CONDITION AT NO ADDITIONAL COST TO THE OWNER, AND TO THE SATISFACTION OF THE OWNER. LANDSCAPE AREAS REQUIRING RESTORATION SHALL INCLUDE MIN. 3" TOPSOIL AND SOD. PAVEMENT AREAS SHALL BE RESTORED TO THEIR ORIGINAL CONDITION WITH THE APPLICABLE CROSS-SECTION TO MATCH EXISTING.

**EARTHWORK BALANCING NOTE:**

THE CONTRACTOR SHALL BE RESPONSIBLE FOR IMPORTING OR EXPORTING ALL MATERIALS AS REQUIRED TO PROPERLY GRADE THIS PROJECT TO THE FINISHED ELEVATIONS SHOWN ON THE APPROVED PLANS. THE CONTRACTOR SHALL MAKE THEIR OWN DETERMINATION OF CUT AND FILL QUANTITIES AND ALLOW FOR REMOVAL OF EXCESS OR IMPORTATION OF ADDITIONAL MATERIAL AT NO ADDITIONAL COST TO THE OWNER.

**NOTICE:**

CONSTRUCTION SITE SAFETY IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR. NEITHER THE OWNER NOR THE ENGINEER SHALL BE EXPECTED TO ASSUME ANY RESPONSIBILITY FOR SAFETY OF THE WORK, OF PERSONS ENGAGED IN THE WORK, OF ANY NEARBY STRUCTURES, OR OF ANY OTHER PERSONS.

**NOTES:**

- NO GRADING TO TAKE PLACE ON ADJACENT PROPERTIES
- ALL SIDEWALKS TO BE ADA COMPLIANT.
- ALL SPOT GRADES SHOWN ON THIS PLANS ARE PROPOSED TOP OF PAVEMENT UNLESS OTHERWISE NOTED.
- ALL SOIL EROSION AND SEDIMENT CONTROL MEASURES MUST BE SHOWN AND MAINTAINED DURING GRADING AND CONSTRUCTION OPERATIONS OR UNTIL A PERMANENT GROUND COVER IS ESTABLISHED.
- CONSTRUCT THE PROPOSED SIDEWALK WITH 4-INCH NON-REINFORCED CONCRETE WITH 2% MAXIMUM TRAVERSE SLOPE TOWARD THE ROAD OR AS DIRECTED BY THE COUNTY ENGINEER.

**MAINTENANCE REQUIREMENTS (EROSION CONTROL)**

**SILT FENCE:**  
SILT FENCES SHOULD BE INSPECTED IMMEDIATELY AFTER EACH RAINFALL AND SEVERAL TIMES DURING PROLONGED RAINFALLS. IF THE FENCE IS SAGGING OR THE SOIL HAS REACHED ONE HALF THE HEIGHT OF THE FABRIC, THE SOIL BEHIND THE FABRIC MUST BE REMOVE AND DISPOSED OF IN A STABLE UPLAND SITE. THE SOIL CAN BE ADDED TO THE SPOIL PILE. IF THE FABRIC IS BEING UNDERCUT (I.E. IF THE WATER IS SEEPING UNDER THE FENCE), THE FENCE SHOULD BE REMOVED AND REINSTALLED FOLLOWING THE GIVEN PROCEDURES. FABRIC WHICH DECOMPOSES OR OTHERWISE BECOMES INEFFECTIVE SHOULD BE REMOVED AND SAVED WITH NEW FILTER FABRIC IMMEDIATELY. FILTER FENCES SHOULD BE REMOVED ONCE VEGETATION IS WELL ESTABLISHED AND THE UP-SLOPE IS FULLY STABILIZED OR UNLESS OTHERWISE DIRECTED BY THE ENGINEER.

**ACCESS ROADS (HAUL ROADS):**  
PROPER MAINTENANCE MAY INCLUDE ADDING ADDITIONAL LAYERS OF STONE WHEN THE ORIGINAL STONE BECOMES COVERED WITH MUD. AFTER EACH STORM EVENT, INSPECT THE ROAD FOR EROSION AND MAKE ANY NECESSARY REPAIRS. IT IS ALSO IMPORTANT TO CHECK AND MAINTAIN ANY BMP'S WHICH ARE USED IN CONJUNCTION WITH THIS BMP, ESPECIALLY THOSE FOR DRAINAGE. ALL SEDIMENT DROPPED OR ERODED ONTO PUBLIC RIGHT-OF-WAYS SHOULD BE REMOVED IMMEDIATELY BY SWEEPING.

**SEEDING, SODDING & MULCHING:**  
SEED, SODDED OR MULCHED AREAS SHOULD BE CHECKED FOLLOWING EACH RAIN TO ENSURE THE MATERIAL IS STAYING IN PLACE. ADDITIONAL TACKLING MATERIALS OR NETTING MAY NEED TO BE APPLIED TO HOLD THE AFOREMENTIONED MATERIALS IN PLACE. MAINTENANCE PROCEDURES SHOULD ALSO BE FOLLOWED FOR THE BMP'S WHICH WERE IMPLEMENTED TO KEEP ERODED SOIL OR CONCENTRATED RUNOFF AWAY FROM THESE TARGET AREAS.

**SOIL EROSION CONTROL NOTES:**

CONTRACTOR TO PLACE EROSION CONTROL MATS IN ALL DISTURBED AREAS WHICH HAVE A 3 ON 1 SLOPE OR STEEPER.

PERMANENT SOIL EROSION CONTROLS ARE REQUIRED TO BE INSTALLED WITHIN FIVE (5) DAYS AFTER FINAL GRADING OR FINAL EARTH CHANGE.

INTERNAL AND EXTERNAL STREETS SHALL BE CLEANED OF ANY TRACKED MUD IMMEDIATELY FOLLOWING EACH MUD-TRACKING OCCURRENCE.

THIS SITE WILL REQUIRE A NPDES/NOC PERMIT FROM THE STATE OF MICHIGAN. PER THE REQUIREMENTS OF THE NPDES PERMIT, INSPECTIONS WILL BE PERFORMED BY A CERTIFIED MDEQ STORMWATER OPERATOR AT LEAST ONCE A WEEK AND IMMEDIATELY FOLLOWING EACH PRECIPITATION EVENT. THE WRITTEN REPORTS MUST BE MAINTAINED ONSITE.

**SEQUENCE CONSTRUCTION:**

- SOIL EROSION AND SEDIMENTATION CONTROL PRE-GRADING MEETING.
- STAKE TREE CLEARING LIMITS AND INSTALL NATURAL FEATURES PROTECTION FENCING.
- REMOVE TREE STEMS (NOT ROOT SYSTEMS).
- INSTALL ALL PERIMETER SOIL EROSION AND SEDIMENTATION CONTROL MEASURES INCLUDING MUD TRACKING SURFACES.
- GRUB (REMOVE TREE ROOT SYSTEMS) AND ROUGH GRADE SITE, STOCKPILE TOPSOIL (INSTALL TEMPORARY EROSION CONTROLS AROUND STOCKPILE PILES), INSTALL SWALE AND/OR CHANNEL EROSION CONTROLS.
- INSTALL DETENTION PONDS WITH INLET AND OUTLET CONTROL STRUCTURES, RIP-RAP, AND REINFORCED OVERFLOW.
- STABILIZE THE ENTIRE DETENTION PONDS INCLUDING THE BOTTOM, SIDE SLOPES, AND BERMS WITH TEMPORARY OR PERMANENT VEGETATION.
- INSTALL ADDITIONAL SOIL EROSION AND SEDIMENTATION CONTROL MEASURES TO PROTECT STABILIZED AREAS FROM SEDIMENTATION.
- INSTALL STORM SEWER SYSTEM WITH INLET FILTER CONTROLS.
- INSTALL WATER MAIN, FIRE HYDRANTS AND OTHER UTILITIES.
- INSTALL CURBING AND SUB-BASE OF AREAS TO BE PAVED, THEN INSTALL WEAR COAT OF ASPHALT.
- BEGIN BUILDING CONSTRUCTION.
- FINAL GRADE SITE AND REDISTRIBUTE TOPSOIL. STABILIZE ALL DISTURBED WITH SOD, HYDROSEED APPLICATION, OR SEEDING UNDER A CRIMPED STRAW MULCH.
- MONITOR AND MAINTAIN ALL EROSION CONTROLS THROUGH CONSTRUCTION SEQUENCE.
- REMOVE AND REPLACE GRAVEL FILTERS SURROUNDING STANDPIPES IN DETENTION AREAS. CLEAN UP MECHANICAL WATER QUALITY DEVICES, REMOVE ALL TEMPORARY SOIL EROSION AND SEDIMENTATION CONTROLS AFTER VEGETATION HAS ROOTED TO THE POINT OF PERMANENTLY STABILIZING THE SOILS.
- PRIOR TO REQUESTING A CERTIFICATE OF OCCUPANCY, DESIGN ENGINEER TO FURNISH THE TOWNSHIP, IN WRITING VERIFICATION THAT THE PONDS AND ACCOMPANYING STRUCTURES HAVE BEEN BUILT AND WILL FUNCTION PER PLAN.

NOTE: SCHEDULE SUBJECT TO LYON TOWNSHIP APPROVAL AND WEATHER.

RESIDENTIAL  
Site Construction  
Utility Plans  
Site Plans  
COMMERCIAL  
Site Planning  
Site Preparation  
Industrial & Institutional  
Land Surveying  
SURVEYING  
Boundary Surveys  
Topographic Surveys  
Precisely Surveying  
Construction Staking

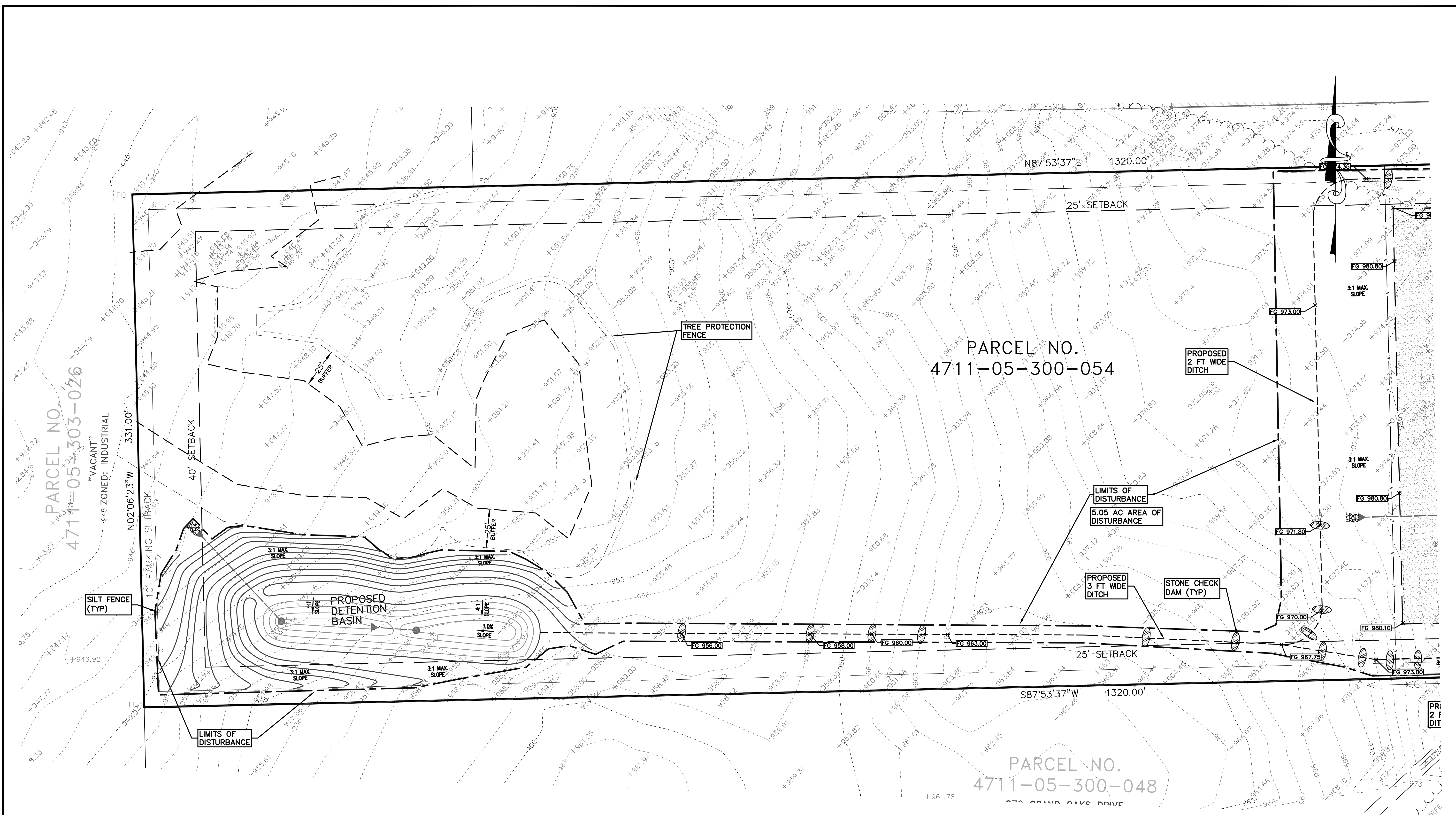
**GREENTECH ENGINEERING, INC.**  
CIVIL ENGINEERS & LAND SURVEYORS  
51147 W. Pontiac Trail, Wixom, MI 48393  
Phone: (248) 668-0700 Fax: (248) 668-0701

**811**  
Know what's Below  
Call before you dig.

ACS BUILD, INC.  
**GRADING & SESC PLAN (EAST)**  
GRAND OAKS DRIVE - PARCEL NO 4711-05-300-054  
TOWNSHIP: 2 N RANGE: 5 E  
SECTION: 5 CHARTER TOWNSHIP OF GENOA  
LIVINGSTON COUNTY MICHIGAN

REVISED	2018-4-25 PER REVIEW
DATE: 4-4-2018	DRAWN BY: RMS
CHECKED BY: JMF	
FBK: ---	CHP: MM
SCALE: HOR 1"=30 FT.	VER 1"= 30 FT.

**NOT FOR CONSTRUCTION**



LEGEND	
--- EXISTING STORM	■ PROP. CATCH BASIN
--- EXISTING WATER MAIN	● PROP. MANHOLE
--- EXISTING SANITARY	▲ PROP. END SECTION
--- EXISTING GAS	○ PROP. SANITARY CLEANOUT
--- FD. IRON PIPE/ROD	○ PROP. ROW
○ UTILITY POLE	--- PROP. STORM SEWER
○ EX. MANHOLE	--- PROP. SANITARY SEWER
○ EX. CATCH BASIN	--- PROP. WATER MAIN
○ EX. CLEAN OUT	○ PROP. GATE VALVE
○ EX. HYDRANT	○ PROP. HYDRANT
○ EX. WATER SHUTOFF	○ DOWNSPOUT CONNECTION
○ EX. LIGHT POLE	○ SURFACE DISCHARGE DOWNSPOUT
○ EX. END SECTION	○ EXISTING RIGHT-OF-WAY
○ EX. SIGN	○ PROPOSED RIGHT-OF-WAY

GRADING AND DRAINAGE LEGEND:	
725.00	PROPOSED SPOT GRADE ELEVATION
TP	= TOP OF PAVEMENT
TW	= TOP OF WALK
TC	= TOP OF CURB
G	= GUTTER
FG	= FINISH GRADE
FF	= FINISH FLOOR
→	= OVERLAND FLOW DIRECTION

SOIL EROSION LEGEND	
○	INLET FILTER
---	SILT FENCE
○	STONE CHECK DAM

NOT FOR CONSTRUCTION

**BENCHMARKS:**

**SITE BM #1**  
 ARROW ON HYDRANT 35 FEET  
 NORTH OF THE SOUTHEAST CORNER  
 OF PARCEL #4711-05-300-054  
 ELEVATION: 995.96  
 DATUM (NAVD 88)

**SITE BM #2**  
 ARROW ON HYDRANT 94 FEET  
 NORTH OF THE NORTHEAST CORNER  
 OF PARCEL #4711-05-300-054  
 ELEVATION: 993.98  
 DATUM (NAVD 88)

**Determination of Required Volume for Detention Basins**

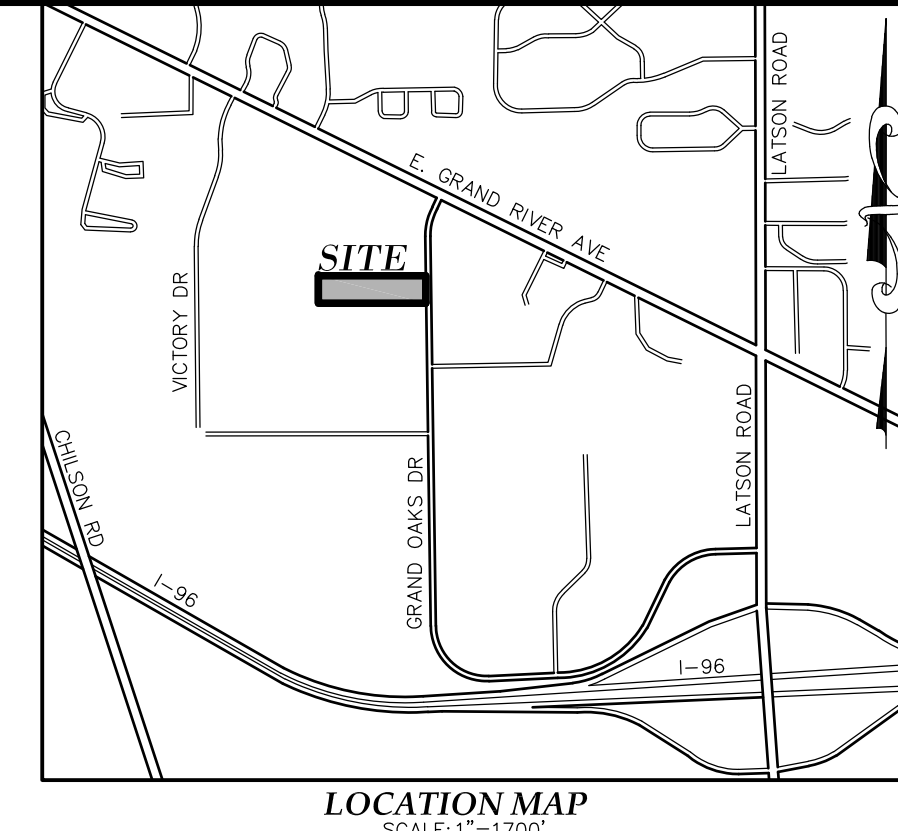
		Tributary Area (A) =	6.9 Acres			
		Run-off Coefficient* (C) =	0.8			
		Design Constant (K <sub>1</sub> ) = A X C =	5.52			
		Allowable Outflow Rate (Q <sub>0</sub> ) = 0.2 cfs/acre x A =	1.38 cfs			
1	2	3	4	5	6	7
Duration (min)	Duration (sec)	Intensity (100-yr Storm: I=275/t+25) (in/hr)	Col. #2 x Col. #3 (in)	Inflow Volume = Col. #4 x K <sub>1</sub> (CF)	Outflow Volume = Col. #2 x Q <sub>0</sub> (CF)	Storage Volume = Col. #5 - Col. #6 (CF)
5	300	9.17	2,751	2,201	414	1,787
10	600	7.86	4,716	3,773	828	2,945
15	900	6.88	6,192	4,954	1,242	3,712
20	1,200	6.11	7,332	5,866	1,656	4,210
30	1,800	5.00	9,000	7,200	2,484	4,716
60	3,600	3.24	11,664	9,331	4,968	4,363
90	5,400	2.39	12,906	10,325	7,452	2,873
120	7,200	1.90	13,680	10,944	9,936	1,008
180	10,800	1.34	14,472	11,578	14,904	-3,326

**DETENTION BASIN SIZING**

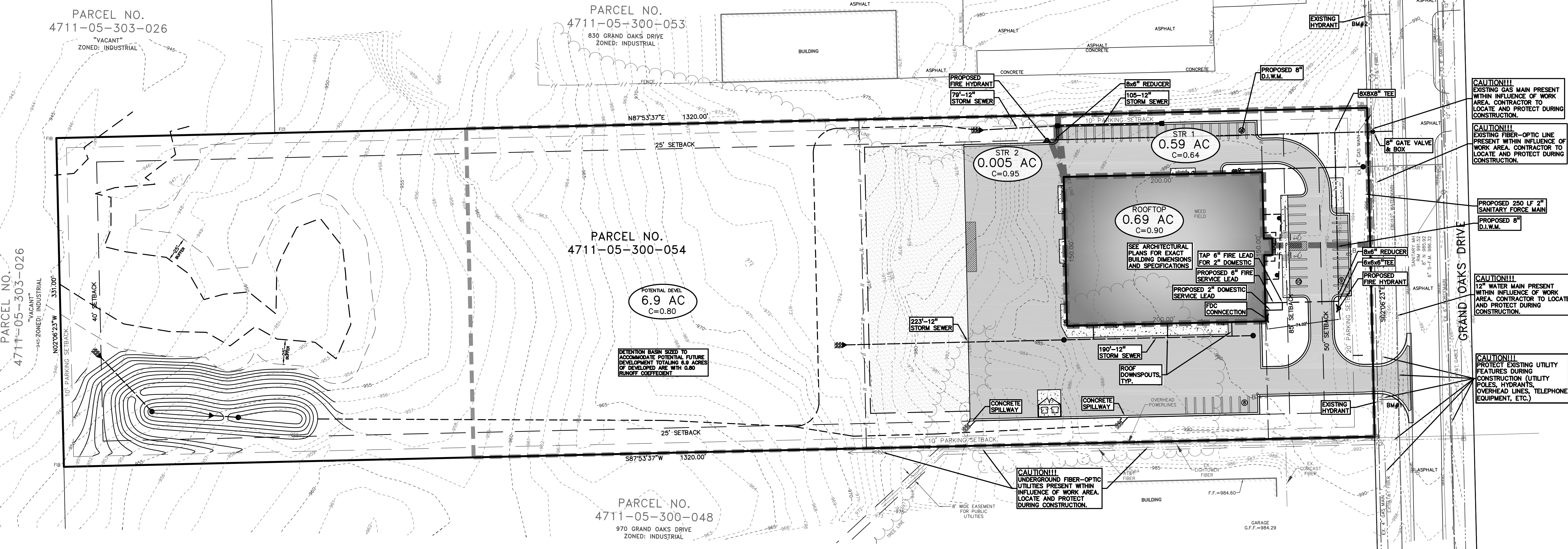
ELEVATION	AREA	AVG. AREA	HEIGHT	VOLUME	CUM. VOLUME
954.0	800	1,420	1.0	1,420	1,420
955.0	2,040	2,781	1.0	2,781	4,201
956.0	3,521	4,261	1.0	4,261	8,461
957.0	5,000				Req Vol
958.0	Freeboard				4716

**FOREBAY SIZING**

ELEVATION	AREA	AVG. AREA	HEIGHT	VOLUME	CUM. VOLUME
954.0	574	895	1.0	895	895
955.0	1,216				Req Vol (5% Total)
					423



**GREENTECH ENGINEERING, INC.**  
 CIVIL ENGINEERS & LAND SURVEYORS  
 51147 W. Pontiac Trail, Wixom, MI 48393  
 Phone: (248) 668-0700 Fax: (248) 668-0701



**SAND BACKFILL NOTE:**

ALL UTILITIES UNDER PAVEMENT OR WITHIN 3' OF THE EDGE OF PAVEMENT (OR WITHIN THE 45' LINE OF INFLUENCE OF PAVEMENT) SHALL HAVE M.D.O.T. CLASS II GRANULAR BACKFILL COMPACTED TO 95% MAX. DRY DENSITY (ASTM D-1557).

**NOTE:**

THE LOCATIONS OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY AS DISCLOSED BY AVAILABLE UTILITY COMPANY RECORDS AND HAVE NOT BEEN INDEPENDENTLY VERIFIED BY THE COMPANY. NO GUARANTEE IS EITHER EXPRESSED OR IMPLIED AS TO THE COMPLETENESS OR ACCURACY THEREOF. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK, AND AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE OCCASIONED BY THE CONTRACTOR'S FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES. THE CONTRACTOR SHALL NOTIFY THE DESIGN ENGINEER IMMEDIATELY IF A CONFLICT IS APPARENT.

**SANITARY SEWER NOTES:**

1. ALL NEW SANITARY FORCEMAIN SEWER SYSTEMS INSTALLED ARE SUBJECT TO GENOA TWP., OR LIVINGSTON COUNTY INSPECTION.
2. ROAD SHOULDERS, ROAD PAVEMENT, PARKING PAVEMENT, CURBS, DRIVEWAYS, SIDEWALKS, DITCHES, DRAINAGE PIPES AND STRUCTURES, FENCES, LAWN, TREES, BUSHES, MAILBOXES, STREET AND PUBLIC INFORMATION SIGNS, ADVERTISEMENT SIGNS, AND ITEMS NOT LISTED, DAMAGED DURING CONSTRUCTION SHALL BE RESTORED AND/OR REPLACED TO NEW OR SIMILAR CONDITION.
3. ALL SANITARY SEWERS UNDER PROPOSED PAVEMENT OR WITHIN A 1 TO 1 INFLUENCE OF PAVEMENT SHALL BE BACKFILLED WITH SAND AND COMPACTED TO 95% OPTIMUM DENSITY.
4. MAINTAIN 10 FEET OF MINIMUM HORIZONTAL AND 18" VERTICAL CLEARANCE BETWEEN ALL UTILITIES.
5. ALL WORKMANSHIP AND MATERIALS SHALL BE IN ACCORDANCE WITH CURRENT STANDARDS AND SPECIFICATIONS OF GENOA TOWNSHIP.
6. CALL MISS DIG (1-800-482-7171) A MINIMUM OF 48 HOURS PRIOR TO THE START OF CONSTRUCTION.
7. NO CONNECTIONS SHALL BE MADE TO THE EXISTING SANITARY SEWER SYSTEM UNTIL FINAL PRESSURE TESTING HAS BEEN ACCEPTED BY TOWNSHIP SANITARY SEWER SYSTEM OPERATOR OR SUCCESSOR OPERATOR OF THE SANITARY SEWER SYSTEM AND THE TOWNSHIP ENGINEER.
8. SEE GENOA TOWNSHIP DETAILS FOR PIPE BEDDING.
12. NO CONNECTION TO RECEIVING STORM WATER, SURFACE WATER, WATER SOFTENER BACKWASH DISCHARGE, OR GROUND WATER SHALL BE MADE TO SANITARY SEWERS.

**UTILITY NOTES**

- TOWNSHIP STANDARD EASEMENTS ARE TO BE PROVIDED FOR PUBLIC WATER AND SANITARY SEWER.
- ALL PROPOSED FIRE SERVICE WATER LEAD IS CLASS 54 DUCTILE IRON PIPE. REVIEWS AND APPROVAL OF THE STORM SEWER SYSTEM BY THE LIVINGSTON COUNTY DRAIN COMMISSIONER AND GENOA TOWNSHIP.
- MAINTENANCE OF THE STORMWATER DETENTION FACILITIES WILL BE THE RESPONSIBILITY OF THE OWNER.
- CALL MISS DIG 72 HOURS PRIOR TO ANY EXCAVATION ON THE SITE.
- ALL FOOTING LEADS TO BE CONNECTED TO THE ON-SITE STORM SYSTEM.
- ALL END SECTIONS TO HAVE A SAFETY GRATE.
- FRANCHISE EASEMENTS WILL BE INDICATED ON THE FINAL SITE PLAN AS DETERMINED BY DTE ENERGY DURING THEIR SERVICE PLANNING DESIGN.
- THE PROPOSED BUILDING SHALL HAVE FIRE SUPPRESSION SYSTEM INSTALLED.

**GENERAL UTILITY NOTES**

1. ALL UTILITY LINES, STRUCTURES AND TRENCHES SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE STANDARDS AND REQUIREMENTS OF GENOA TOWNSHIP.
2. NO PHYSICAL CONNECTION TO THE EXISTING WATER MAIN CAN BE MADE UNTIL ALL NEW WATER MAIN PASSES PRESSURE AND BACTERIOLOGICAL TESTS TO THE SATISFACTION OF THE TOWNSHIP.
3. WATER MAIN SERVICE LEADS SHALL BE TYPE "K" ANNEALED SEAMLESS COPPER WITH FLARED FITTINGS, UNLESS OTHERWISE NOTED.
4. ALL WATER MAIN SHALL BE PROVIDED WITH 5.5' OF COVER UNLESS OTHERWISE NOTED.
5. ALL SANITARY SEWER LEADS SHALL BE POLYETHYLENE GLYCOL (PE) SDR 23.5 PIPE AND FITTINGS. ALL JOINTS TO BE ELASTOMERIC GASKET JOINTS PER ASTM D3212 UNLESS OTHERWISE NOTED.
6. PIPE LENGTHS ARE GIVEN FROM CENTER OF STRUCTURE AND TO END OF FLARED END SECTION UNLESS NOTED OTHERWISE.

**811**  
 Know what's Below  
 Call before you dig.

**UTILITY AND STORMWATER MANAGEMENT PLAN**  
 CLIENT: ACS BUILD, INC.  
 GRAND OAKS DRIVE - PARCEL NO 4711-05-300-054  
 TOWNSHIP: 2 N RANGE: 5 E.  
 SECTION: 5 CHARTER TOWNSHIP OF GENOA LIVINGSTON COUNTY MICHIGAN

REVISED  
 2018-4-25 PER REVIEW

DATE: 4-4-2018  
 DRAWN BY: RMS  
 CHECKED BY: JMF

SCALE: HOR 1"=50 FT. VER 1"=10 FT.

6

17-420

**NOT FOR CONSTRUCTION**

MAN-HOLE FRAME & COVER & CATCH BASIN INLETS				
TYPE	LOCATION	MANUFACTURER OR EQUAL	TYPE OF COVER OR INLET	MAXIMUM DRAINAGE AREA (ACRES)
MH	ALL	1040	R-1916 F1	SANITARY-SOLID SELF-SEALING STORM-VENTED
CB	TYPE A CURB	7000-T1-M1	R-3070	FLAT GRATE WITH VERT. OPEN BACK
CB	TYPE B CURB	7065-T1-M1	R-3034-B	FLAT GRATE WITH ROLL BACK
CB	PAVEMENT/SHOULDER	1020-M1	R-2090-D	FLAT GRATE
CB	OPEN AREA	1020-01	R-2560-D	BEEHIVE GRATE 4" HIGH
CB	GUTTER	5100	R-3238	CONCAVE INLET

**NOTE:**  
TYPE A-1 EQUAL TO TYPE 'A' EXCLUDING 24" SUMP BUT ADD ON BOTTOM CONC. FILLET.  
TYPE B-1 EQUAL TO TYPE 'B' EXCLUDING 24" SUMP BUT ADD ON BOTTOM CONC. FILLET.

Genoa Charter Township  
CATCH BASIN  
Date: APRIL 2010  
R-1

**WELD 1/2" BARS AT 3" O.C. AND WELD GRID TO 3"x14" ANGLE. SECURE TO CMP WITH 1/4" STAINLESS STEEL SCREWS. WELDS TO CONFORM TO CURRENT ANS. STANDARDS**

**BACKFILL WITH 3" WASHED STONE, THEN CHOKE WITH MDOT 2A STONE WRAP STRUCTURE WITH NON WOVEN POLYESTER OR POLYPROPYLENE GEOTEXTILE FABRIC (AMOCO 4500 OR 2000 SERIES OR EQUAL)**

Genoa Charter Township  
OUTLET CONTROL STRUCTURE  
Date: APRIL 2010  
R-2

**NOTES:**  
1. COMPACTION PRESENTED AS STANDARD PROCTOR VALUES.  
2. SOIL TYPES  
GRAVEL SANDY (SW) ASTHO DESIG. A1, A3  
SANDY SILTY (ML) A2, A4  
SILTY CLAY (CL) A5, A6, A7  
3. SOIL IN HAUNCH AND LOWER SIDE ZONES OUTSIDE OF D<sub>0.6</sub> FROM SPRING LINE SHALL BE COMPACTED TO AT LEAST THE SAME COMPACTION AS THE SOIL IN THE OVERFILL ZONE.

Genoa Charter Township  
TRENCH EXCAVATION & BACKFILL  
Date: APRIL 2010  
R-3

Genoa Charter Township  
CONCRETE CURB & GUTTER  
Date: APRIL 2010  
G-1

Genoa Charter Township  
CONCRETE CURB SPILLOUT  
Date: APRIL 2010  
G-2

**NOTE:** SEE MDT R-28-F SIDEWALK RAMP AND DETECTABLE WARNING DETAILS FOR ADDITIONAL INFORMATION.

Genoa Charter Township  
SIDEWALK RAMP  
Date: APRIL 2010  
G-3

Genoa Charter Township  
PARKING LOT CROSS SECTIONS  
Date: APRIL 2010  
G-6

Genoa Charter Township  
CHECK DAM DETAIL  
NO SCALE

Genoa Charter Township  
VEGETATED SWALE  
NO SCALE

**NOTE:** PROVIDE 1/2" JOINT PAPER AT BUILDING SIDEWALK INTERFACE

Genoa Charter Township  
INTEGRAL SIDEWALK AND CURB  
TO BE USED ALONG THE FRONT OF PROPOSED BUILDING NOT TO SCALE  
**NOTE:** SIDEWALK AT RAMP AND OVERHEAD DOOR TO BE THICKENED TO 6"

Genoa Charter Township  
SECURITY FENCE PROFILE

MINIMUM BASE SIZES		
TYPE	DEPTH	DIA
LINE POSTS	39"	10"
PULL & END POSTS	42"	15"
CORNER, & GATE POSTS	54"	18"

**NOTE:** CONTRACTOR TO PROVIDE SHOP DRAWINGS TO THE CITY/TOWNSHIP FOR APPROVAL PRIOR TO CONSTRUCTION.

Genoa Charter Township  
CHAIN LINK SWING GATE  
NOT TO SCALE

Genoa Charter Township  
CHAIN LINK FENCE DETAIL  
NOT TO SCALE

Genoa Charter Township  
BOLLARD DETAIL  
NO SCALE

**NOT FOR CONSTRUCTION**

Genoa Charter Township  
BOLLARD DETAIL  
NO SCALE

**GREENTECH ENGINEERING, INC.**  
CIVIL ENGINEERS & LAND SURVEYORS  
51147 W. Pontiac Trail, Wixom, MI 48393  
Phone: (248) 668-0700 Fax: (248) 668-0701

**811**  
Know what's Below  
Call before you dig.

CLIENT: ACS BUILD, INC.  
REVISIONS:  
2018-4-25 PER REVIEW  
DATE: 4-4-2018  
DRAWN BY: RMS  
CHECKED BY: JMF  
FBK: ---  
CHF: MM  
SCALE: HOR 1" = 10' FT.  
VER 1" = 10' FT.

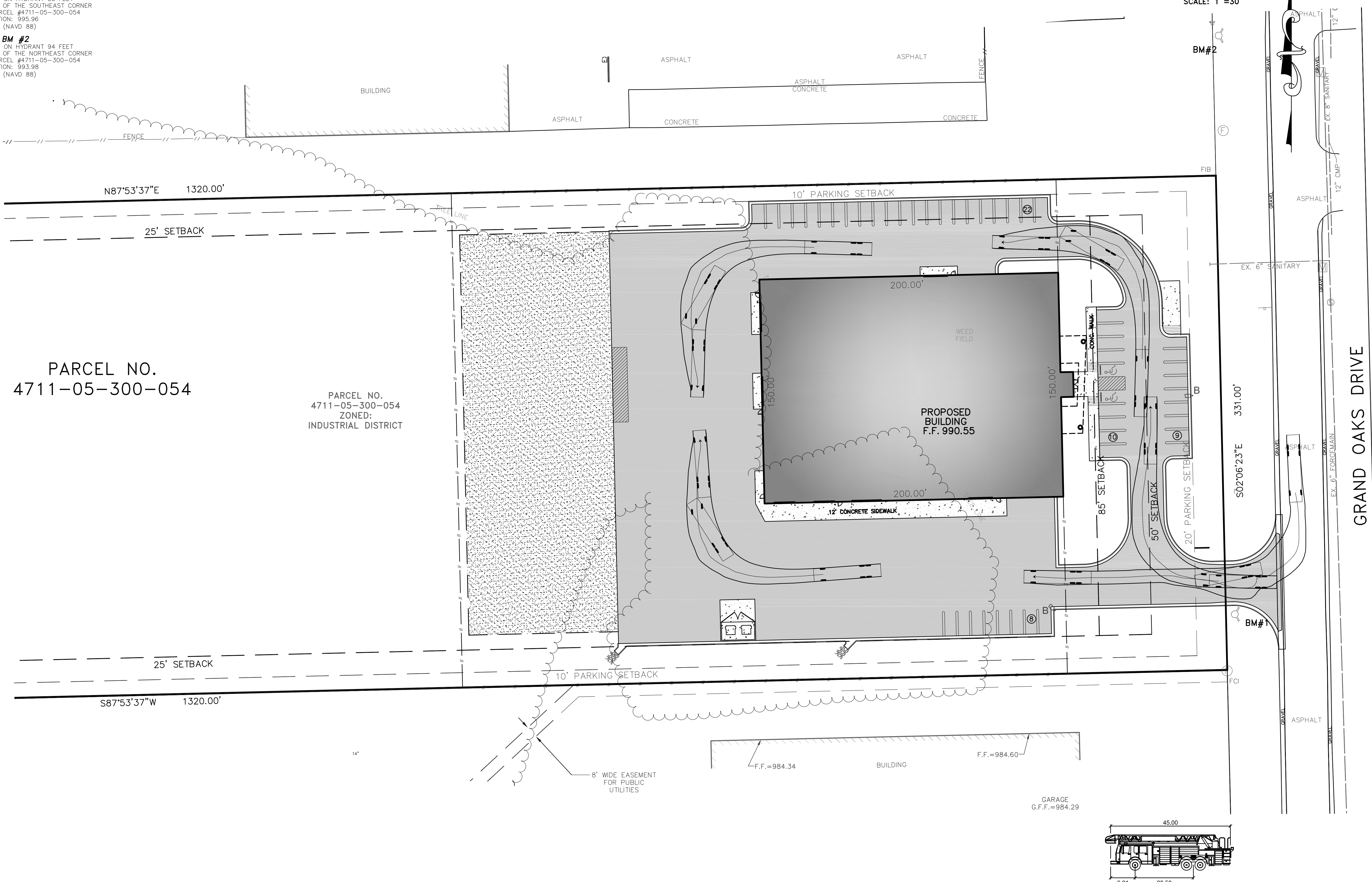
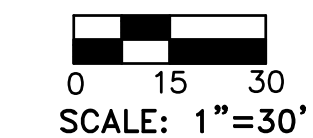
**7**  
17-420

GRAND OAKS DRIVE - PARCEL NO 4711-05-300-054  
SECTION: 5  
TOWNSHIP: 2 N  
CHARTER TOWNSHIP OF GENOA  
LIVINGSTON COUNTY  
MICHIGAN

**BENCHMARKS:**

**SITE BM #1**  
 ARROW ON HYDRANT 35 FEET  
 NORTH OF THE SOUTHEAST CORNER  
 OF PARCEL #4711-05-300-054  
 ELEVATION: 995.96  
 DATUM (NAVD 88)

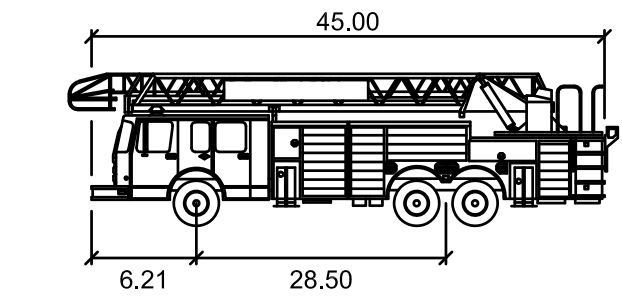
**SITE BM #2**  
 ARROW ON HYDRANT 94 FEET  
 NORTH OF THE NORTHEAST CORNER  
 OF PARCEL #4711-05-300-054  
 ELEVATION: 993.98  
 DATUM (NAVD 88)



PARCEL NO.  
 4711-05-300-054

PARCEL NO.  
 4711-05-300-054  
 ZONED:  
 INDUSTRIAL DISTRICT

GRAND OAKS DRIVE



GTE FIRE-TRUCK feet  
 Width : 8.50  
 Track : 8.50  
 Lock to Lock Time : 6.00  
 Steering Angle : 44.30

**NOTE:**  
 THE LOCATIONS OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY AS DISCLOSED BY AVAILABLE UTILITY COMPANY RECORDS AND HAVE NOT BEEN INDEPENDENTLY VERIFIED BY THE COMPANY. NO GUARANTEE IS EITHER EXPRESSED OR IMPLIED AS TO THE COMPLETENESS OR ACCURACY THEREOF. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK, AND AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE OCCASIONED BY THE CONTRACTOR'S FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES. THE CONTRACTOR SHALL NOTIFY THE DESIGN ENGINEER IMMEDIATELY IF A CONFLICT IS APPARENT.

RESIDENTIAL  
 Site Condominium  
 Survey  
 Plot Plans  
 COMMERCIAL  
 Site Planning  
 Site Preparation  
 Industrial & Municipal  
 Land Surveying  
**GREENTECH**  
 ENGINEERING, INC.  
 CIVIL ENGINEERS & LAND SURVEYORS  
 51147 W. Pontiac Trail, Wixom, MI 48393  
 Phone: (248) 668-0700 Fax: (248) 668-0701

**811**  
 Know what's Below  
 Call before you dig.

CLIENT: ACS BUILD, INC.  
**TRUCK TURNING PLAN**  
 GRAND OAKS DRIVE - PARCEL NO 4711-05-300-054  
 SECTION: 5 TOWNSHIP: 2 N RANGE: 5 E.  
 CHARTER TOWNSHIP OF GENOA  
 LIVINGSTON COUNTY  
 MICHIGAN

REVISED  
 2018-4-25 PER REVIEW

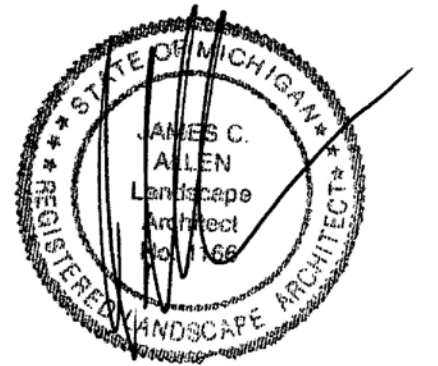
DATE: 4-4-2018  
 DRAWN BY: RMS  
 CHECKED BY: JMF

FBK: ---  
 CHF: MM  
 SCALE: HOR 1"=30 FT.  
 VER 1"= FT.

17-420

**NOT FOR CONSTRUCTION**

Seal:



Title:  
**Landscape Plan**

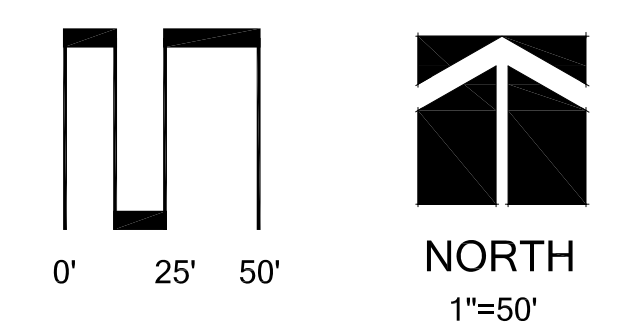
Project:  
**Truck & Trailer Specialties  
 Genoa Township, Michigan**

Prepared for:  
 Greentech Engineering, INC  
 51147 Pontiac Trail  
 Wixom, Michigan 48393  
 248.668.0700

Revision: Issued:  
 Submission April 25, 2018

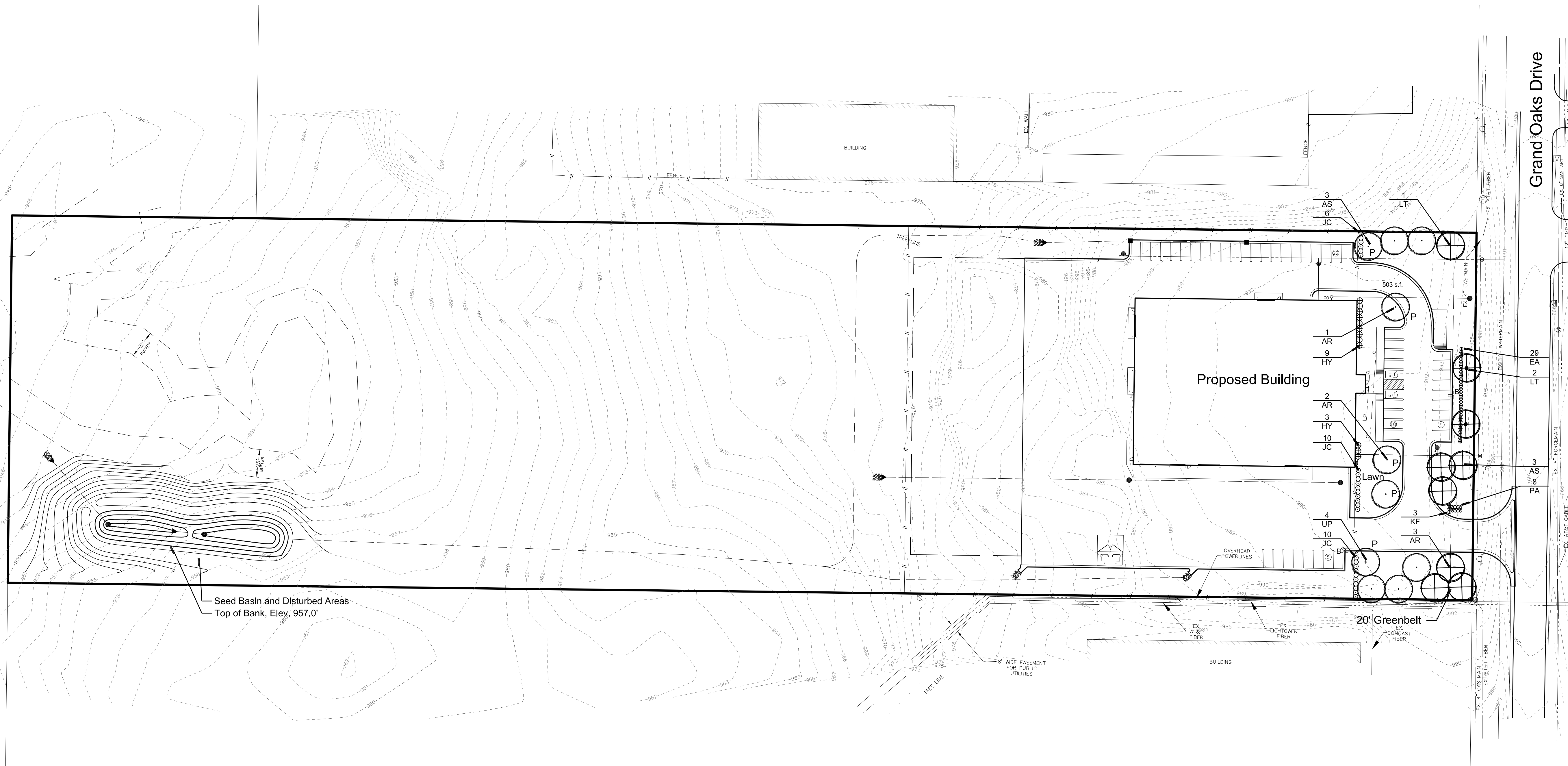
Job Number:  
 18-029

Drawn By: Checked By:  
 jca jca



Sheet No.

L-1



Landscape Summary	
	Greenbelt
Greenbelt Length	331'
Trees Required	9 Trees (331' / 40')
Trees Provided	x Trees
	Parking Lot Landscaping
Total Proposed Spaces	49 Spaces
Landscape Area Required	490 s.f. (49 / 10) x 100
Landscape Area Proposed	503 s.f.
Trees Required	5 Trees (49 / 10)
Trees Provided	5 Trees
	Detention Pond - Plantings Relocated to Front of Building
Top of Bank Length	385 l.f.
Trees Required	8 Trees (1 per 50')
Trees Provided	5 Trees
Shrubs Required	77 Shrubs (10 per 50')
Shrubs Provided	77 Shrubs

Plant List							
sym.	qty.	botanical name	common name	caliper	spacing	root	height
AR	6	Acer rubrum	Red Maple	2.5"	as shown	B&B	
AS	6	Acer saccharum	Sugar Maple	2.5"	as shown	B&B	
EA	29	Euonymus alata 'Compacta'	Compact Burning Bush		as shown		24"
HY	12	Hydrangea 'Little Quick Fire'	Little Quick Fire Hydrangea		as shown		24"
JC	26	Juniperus c. 'Keteleeri'	Keteleer Juniper		as shown	B&B	5'
KF	3	Calamagrostis x acutiflora 'Karl Foerster'	Karl Foerster Grass		as shown		#2 Cont.
LT	3	Liriodendron tulipifera	Tulip Tree	2.5"	as shown	B&B	
PA	8	Pennisetum a. 'Hameln'	Dwarf Fountain Grass		as shown		#2 Cont.
UP	4	Ulmus 'Pioneer'	Pioneer Elm	2.5"	as shown	B&B	

Notes:  
 All Landscaped Areas Shall be Provided with an Automatic Underground Irrigation System





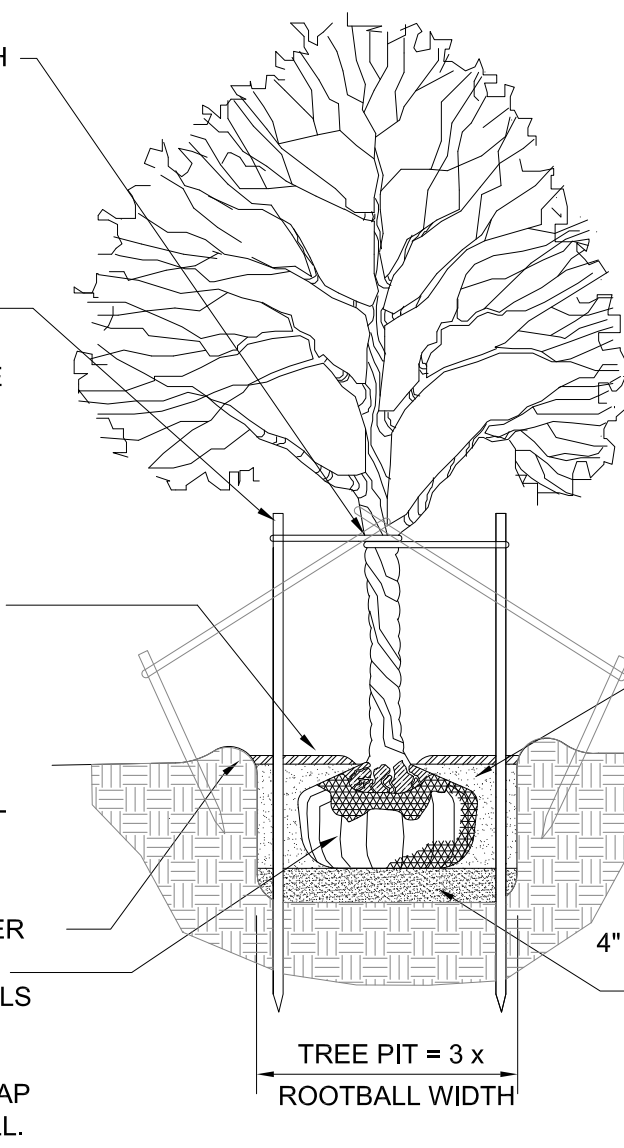
NOTE:  
 GUY DECIDUOUS TREES ABOVE  
 3" CAL. STAKE DECIDUOUS  
 TREES BELOW 3" CAL.

STAKE TREES AT FIRST BRANCH  
 USING 2"-3" WIDE BELT-LIKE  
 NYLON OR PLASTIC STRAPS.  
 ALLOW FOR SOME MINIMAL  
 FLEXING OF THE TREE.  
 REMOVE AFTER ONE YEAR.

2" X 2" HARDWOOD STAKES,  
 MIN. 36" ABOVE GROUND FOR  
 UPRIGHT, 18" IF ANGLED. DRIVE  
 STAKES A MIN. 18" INTO  
 UNDISTURBED GROUND  
 OUTSIDE ROOTBALL. REMOVE  
 AFTER ONE YEAR.

MULCH 4" DEPTH WITH  
 SHREDDED HARDWOOD BARK.  
 NATURAL IN COLOR. LEAVE 3"  
 CIRCLE OF BARE SOIL AT BASE  
 OF TREE TRUNK. PULL ANY  
 ROOT BALL DIRT EXTENDING  
 ABOVE THE ROOT FLARE AWAY  
 FROM THE TRUNK SO THE ROOT  
 FLARE IS EXPOSED TO AIR.

MOUND EARTH TO FORM SAUCER  
 REMOVE ALL  
 NON-BIODEGRADABLE MATERIALS  
 COMPLETELY FROM THE  
 ROOTBALL. CUT DOWN WIRE  
 BASKET AND FOLD DOWN BURLAP  
 FROM TOP 1/2 OF THE ROOTBALL.



NOTE:  
 TREE SHALL BEAR SAME  
 RELATION TO FINISH GRADE AS  
 IT BORE ORIGINALLY OR  
 SLIGHTLY HIGHER THAN FINISH  
 GRADE UP TO 6" ABOVE GRADE,  
 IF DIRECTED BY LANDSCAPE  
 ARCHITECT FOR HEAVY CLAY  
 SOIL AREAS.

DO NOT PRUNE TERMINAL  
 LEADER. PRUNE ONLY DEAD OR  
 BROKEN BRANCHES.

REMOVE ALL TAGS, STRING,  
 PLASTICS AND OTHER  
 MATERIALS THAT ARE  
 UNSIGHTLY OR COULD CAUSE  
 GIRDLING.

PLANTING MIXTURE:  
 AMEND SOILS PER  
 SITE CONDITIONS  
 AND REQUIREMENTS  
 OF THE PLANT  
 MATERIAL.

SCARIFY SUBGRADE  
 AND PLANTING PIT  
 SIDES. RECOMPACT  
 BASE OF TO 4"  
 DEPTH.

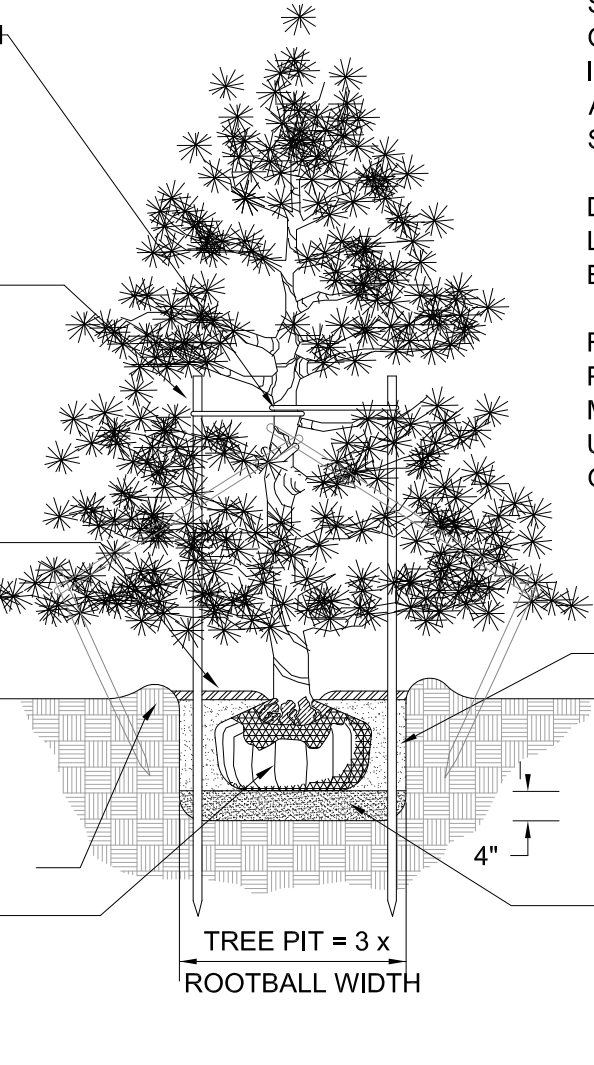
NOTE:  
 GUY EVERGREEN TREES ABOVE  
 12' HEIGHT. STAKE EVERGREEN  
 TREE BELOW 12' HEIGHT.

STAKE TREES AT FIRST BRANCH  
 USING 2"-3" WIDE BELT-LIKE  
 NYLON OR PLASTIC STRAPS.  
 ALLOW FOR SOME MINIMAL  
 FLEXING OF THE TREE.  
 REMOVE AFTER ONE YEAR.

2" X 2" HARDWOOD STAKES,  
 MIN. 36" ABOVE GROUND FOR  
 UPRIGHT, 18" IF ANGLED. DRIVE  
 STAKES A MIN. 18" INTO  
 UNDISTURBED GROUND  
 OUTSIDE ROOTBALL. REMOVE  
 AFTER ONE YEAR.

MULCH 4" DEPTH WITH  
 SHREDDED HARDWOOD BARK.  
 NATURAL IN COLOR. LEAVE 3"  
 CIRCLE OF BARE SOIL AT BASE  
 OF TREE TRUNK. PULL ANY  
 ROOT BALL DIRT EXTENDING  
 ABOVE THE ROOT FLARE AWAY  
 FROM THE TRUNK SO THE ROOT  
 FLARE IS EXPOSED TO AIR.

MOUND EARTH TO FORM SAUCER  
 REMOVE ALL  
 NON-BIODEGRADABLE MATERIALS  
 COMPLETELY FROM THE  
 ROOTBALL. CUT DOWN WIRE  
 BASKET AND FOLD DOWN BURLAP  
 FROM TOP 1/2 OF THE ROOTBALL.



NOTE:  
 TREE SHALL BEAR SAME  
 RELATION TO FINISH GRADE AS  
 IT BORE ORIGINALLY OR  
 SLIGHTLY HIGHER THAN FINISH  
 GRADE UP TO 6" ABOVE GRADE,  
 IF DIRECTED BY LANDSCAPE  
 ARCHITECT FOR HEAVY CLAY  
 SOIL AREAS.

DO NOT PRUNE TERMINAL  
 LEADER. PRUNE ONLY DEAD OR  
 BROKEN BRANCHES.

REMOVE ALL TAGS, STRING,  
 PLASTICS AND OTHER  
 MATERIALS THAT ARE  
 UNSIGHTLY OR COULD CAUSE  
 GIRDLING.

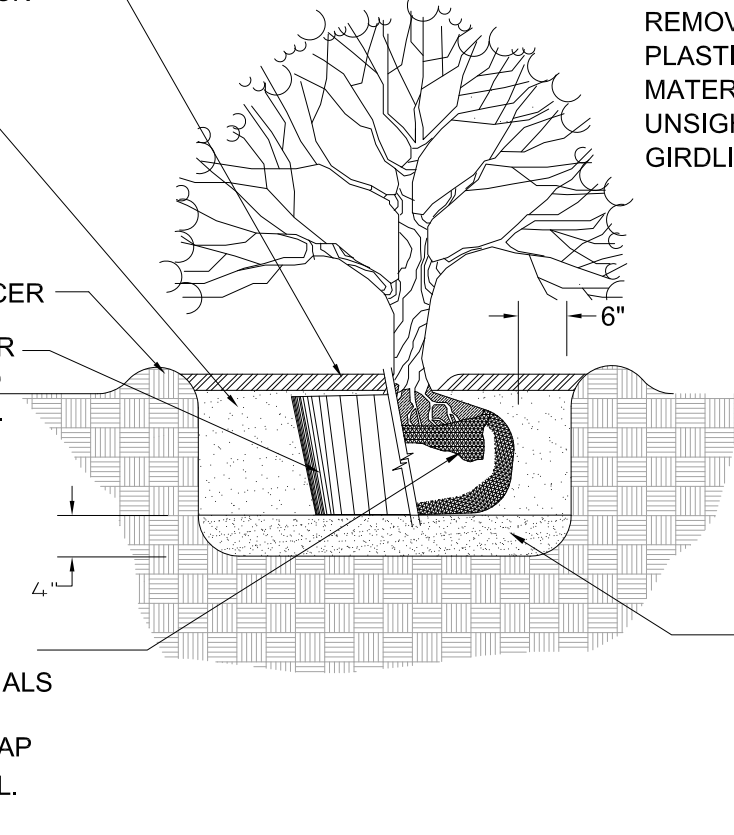
PLANTING MIXTURE:  
 AMEND SOILS PER  
 SITE CONDITIONS  
 AND REQUIREMENTS  
 OF THE PLANT  
 MATERIAL.

SCARIFY SUBGRADE  
 AND PLANTING PIT  
 SIDES. RECOMPACT  
 BASE OF TO 4"  
 DEPTH.

MULCH 3" DEPTH WITH  
 SHREDDED HARDWOOD BARK.  
 NATURAL IN COLOR. PULL BACK  
 3" FROM TRUNK.

PLANTING MIXTURE:  
 AMEND SOILS PER  
 SITE CONDITIONS  
 AND REQUIREMENTS  
 OF THE PLANT  
 MATERIAL.  
 MOUND EARTH TO FORM SAUCER

REMOVE ALL  
 NON-BIODEGRADABLE MATERIALS  
 COMPLETELY FROM THE  
 ROOTBALL. FOLD DOWN BURLAP  
 FROM TOP 1/2 OF THE ROOTBALL.



NOTE:  
 TREE SHALL BEAR SAME  
 RELATION TO FINISH GRADE AS  
 IT BORE ORIGINALLY OR  
 SLIGHTLY HIGHER THAN FINISH  
 GRADE UP TO 4" ABOVE GRADE,  
 IF DIRECTED BY LANDSCAPE  
 ARCHITECT FOR HEAVY CLAY  
 SOIL AREAS.

PRUNE ONLY DEAD OR BROKEN  
 BRANCHES.

REMOVE ALL TAGS, STRING,  
 PLASTICS AND OTHER  
 MATERIALS THAT ARE  
 UNSIGHTLY OR COULD CAUSE  
 GIRDLING.

PLANTING MIXTURE:  
 AMEND SOILS PER  
 SITE CONDITIONS  
 AND REQUIREMENTS  
 OF THE PLANT  
 MATERIAL.  
 MOUND EARTH TO FORM SAUCER

REMOVE ALL  
 NON-BIODEGRADABLE MATERIALS  
 COMPLETELY FROM THE  
 ROOTBALL. FOLD DOWN BURLAP  
 FROM TOP 1/2 OF THE ROOTBALL.

## DECIDUOUS TREE PLANTING DETAIL

NOT TO SCALE

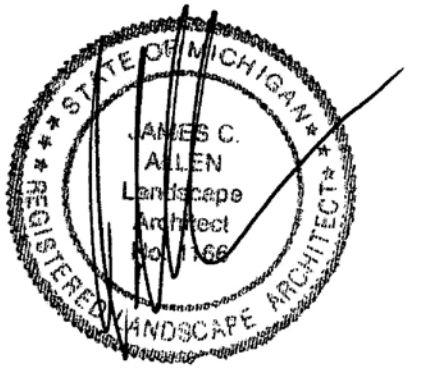
## EVERGREEN TREE PLANTING DETAIL

NOT TO SCALE

## SHRUB PLANTING DETAIL

NOT TO SCALE

Seal:



Title:

Landscape Details

Project:

Truck & Trailer Specialties  
 Genoa Township, Michigan

Prepared for:

Greentech Engineering, INC  
 51147 Pontiac Trail  
 Wixom, Michigan 48393  
 248.668.0700

Revision:

Issued:

Submission

April 25, 2018

Job Number:

18-029

Drawn By:

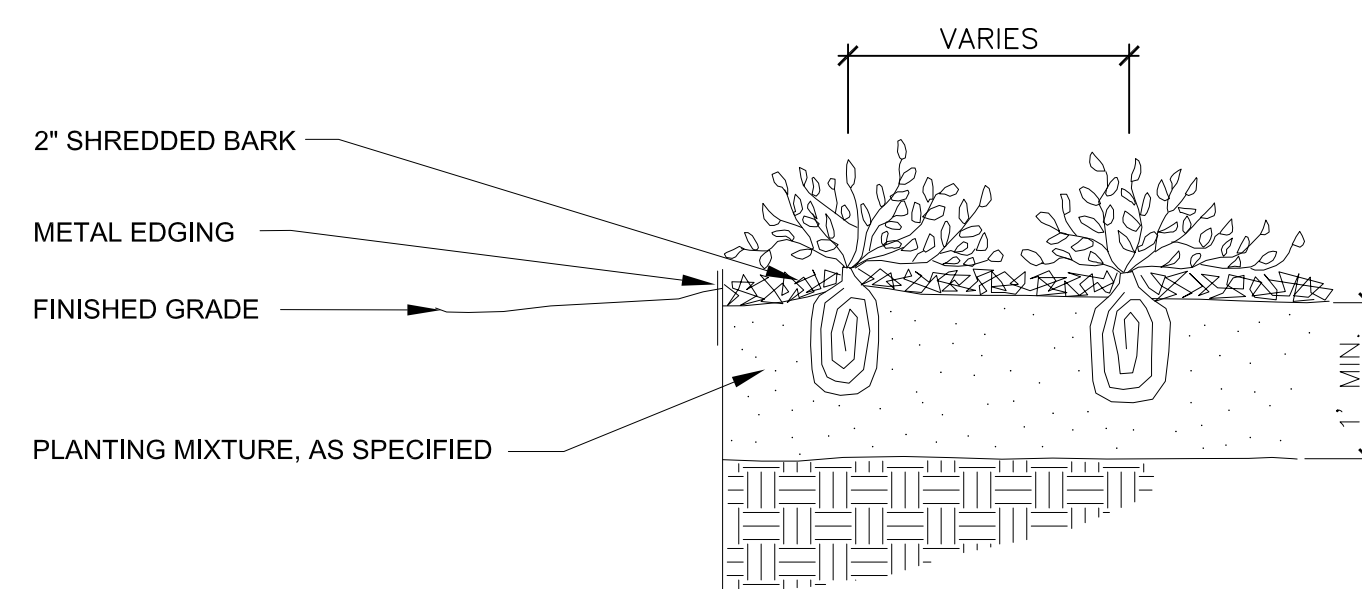
jca

Checked By:

jca

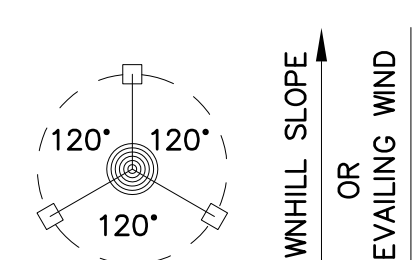
Sheet No.

L-2



## PERENNIAL PLANTING DETAIL

Not to scale

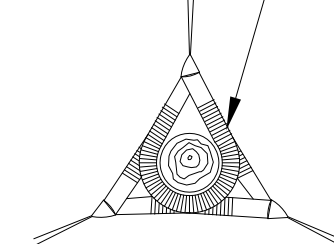


STAKING/GUYING LOCATION

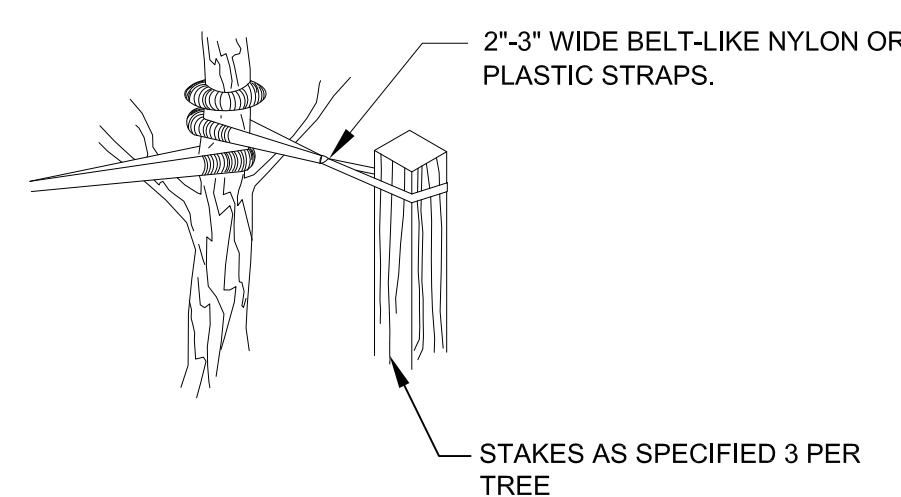
NOTE:  
 ORIENT STAKING/GUYING TO PREVAILING  
 WINDS, EXCEPT ON SLOPES GREATER  
 THAN 3:1 ORIENT TO SLOPE.

USE SAME STAKING/GUYING  
 ORIENTATION FOR ALL PLANTS WITHIN  
 EACH GROUPING OR AREA

2"-3" WIDE BELT-LIKE NYLON OR  
 PLASTIC STRAPS.



GUYING DETAIL



STAKING DETAIL

## TREE STAKING DETAIL

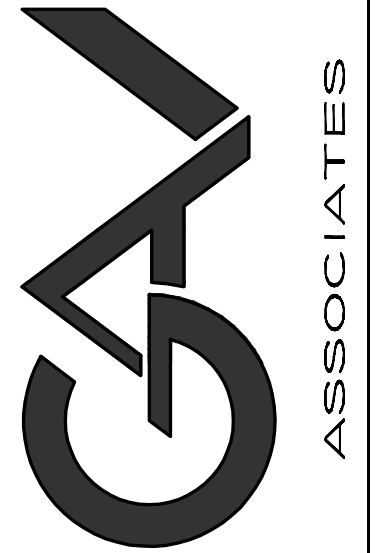
Not to scale



ISSUED FOR	DATE
PRELIM	3.20.18
	3.21.18
SPA	4.3.18
	4.25.18

**ARCHITECTURAL DESIGN**  
RESIDENTIAL  
COMMERCIAL  
INDUSTRIAL

G.A.V. ASSOCIATES, INC.  
24001 ORCHARD LAKE RD., STE. 180A  
FARMINGTON, MICHIGAN 48336  
PH: (248) 988-9191  
WEB: WWW.GAVASSOCIATES.COM



PROPOSED NEW FACILITY FOR:  
TRUCK and TRAILER  
GENOA TOWNSHIP, MI.

DRAWN: DESIGNED: CHECKED:

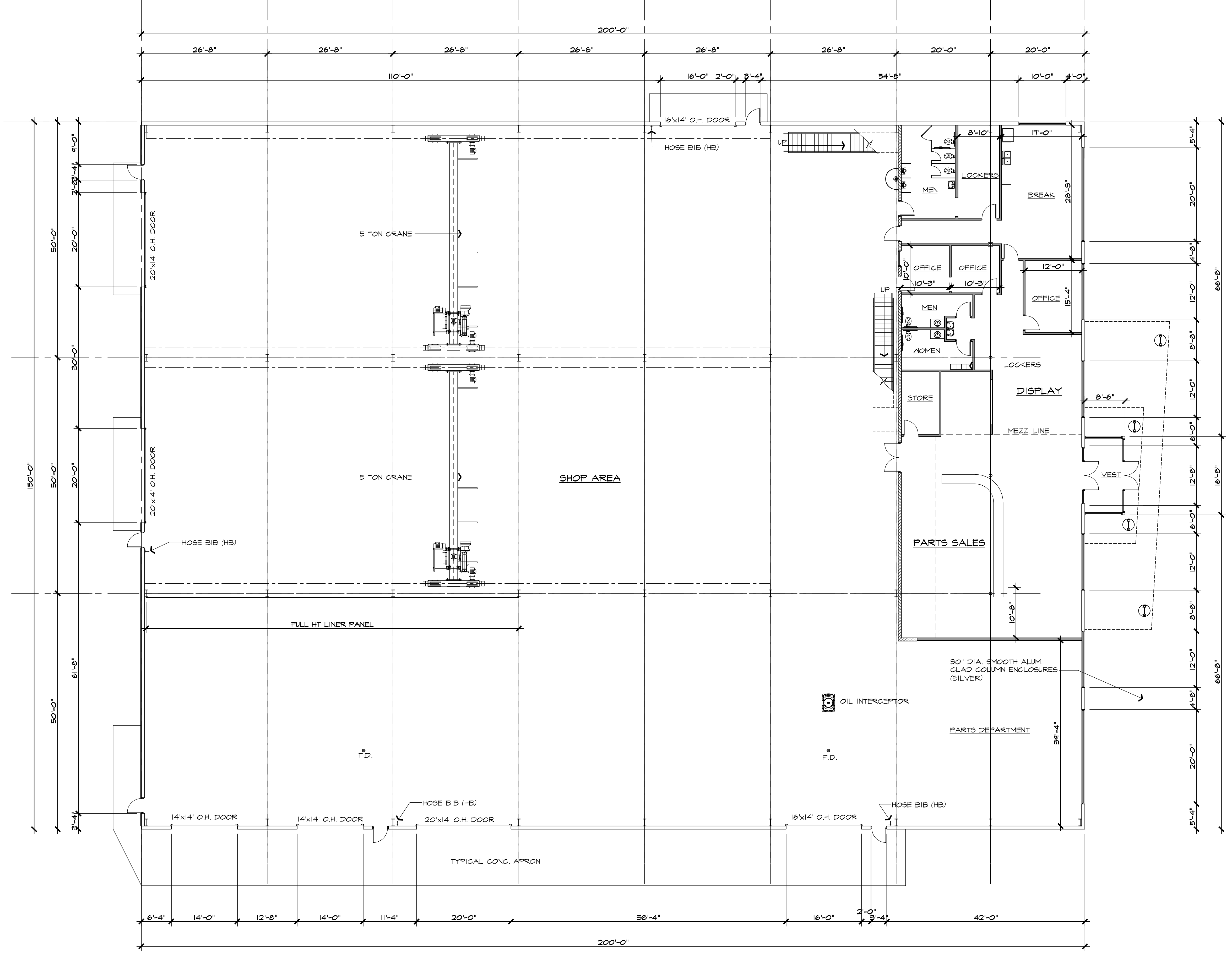
SCALE: 3/32" = 1'-0"

FILE NAME:

JOB #: 18027

SHEET TITLE  
FLOOR PLAN

SHEET #  
A.101



**DESIGN DATA**

**NOTE:**  
PLANS BEING SUBMITTED BY ARE FOR SITE PLAN APPROVAL OF THE PROPOSED NEW BUILDING.

**BUILDING DATA**

TOTAL BUILDING AREA MAIN LEVEL: 76,865 GROSS S.F.

USE GROUP: B / S-1 / F-1

CONSTRUCTION CLASS: IIB

FULLY FIRE SUPPRESSED BUILDING. FIRE SUPPRESSION CONTRACTOR TO SUBMIT SHOP DRAWINGS FOR CITY REVIEW OF PROPOSED ADDITION.

**CODE REFERENCE**

- \*MICHIGAN BUILDING CODE 2015
- \*MICHIGAN BARRIER FREE CODE & ICC/ANSI A117.1 2009
- \*MICHIGAN BARRIER FREE DESIGN LAM P.A. 1 OF 1966 AS AMENDED
- \*MICHIGAN MECHANICAL CODE 2015 (M.M.C.)
- \*MICHIGAN PLUMBING CODE 2015 (M.P.C.)
- \*INTERNATIONAL FUEL GAS CODE 2015 (I.F.G.C.)
- \*MBC 2012 CHAPTER 13 & MICHIGAN UNIFORM ENERGY CODE 2012 CHAPTER 5 AND PART 10a RULES (ANSI/ASHRAE/IESNA STANDARD 90.1 2009)
- \*NATIONAL ELECTRICAL CODE 2014 N.E.C. W/ PART B AMENDMENTS (M.E.C.)
- \*INTERNATIONAL FIRE CODE 2015 (I.F.C.)
- \*PROJECT SHALL COMPLY W/ MBC 2015 CHP. 35

**ALLOWED BUILDING AREA SECTION 506**

**At VALUES**

S-1 USE BASE AREA: 17,500 S.F.  
F-1 USE BASE AREA: 15,500 S.F.  
B USE BASE AREA: 23,000 S.F.

**FRONTAGE INCREASE (506.3)**

$$I_f = [F/P - 0.25] W/30$$

$$= [100 / 100 - 0.25] W/30$$

$$= .75$$

**MAX. AREA (506.2.1)**

USE F-1 WORST CASE SINGLE OCCUPANCY, ONE STORY, FIRE SUPPRESSED  
 $A_d = A_t + (N_s \times I_f)$   
 $= 15,500 + (15,500 \times .75)$   
 $= 21,125$  S.F.  
 $A_t$  (SI TABLE 506.2) = 62,000 S.F.  
 $A_d = 62,000 + 21,125 = 83,125$  S.F.  
 PROPOSED = 30,000 S.F.



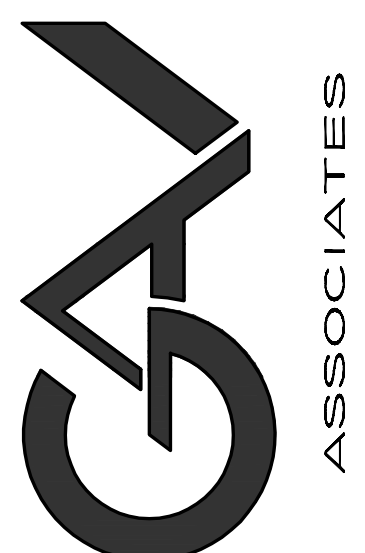
**MAIN LEVEL FLOOR PLAN**

SHOP / WAREHOUSE: 25,643 S.F. SCALE: 3/32" = 1'-0"  
 MAIN FLOOR OFFICE: 4,357 S.F.

ISSUED FOR	DATE
PRELIM	3.20.18
	3.21.18
SPA	4.3.18
	4.25.18

**ARCHITECTURAL DESIGN**  
RESIDENTIAL  
COMMERCIAL  
INDUSTRIAL

G.A.V. ASSOCIATES, INC  
24001 ORCHARD LAKE RD., STE. 180A  
FARMINGTON, MICHIGAN 48336  
PH: (248) 988-9191  
WEB: WWW.GAVASSOCIATES.COM



PROPOSED NEW FACILITY FOR:  
TRUCK and TRAILER  
GENOA TOWNSHIP, MI.

DRAWN: DESIGNED: CHECKED:

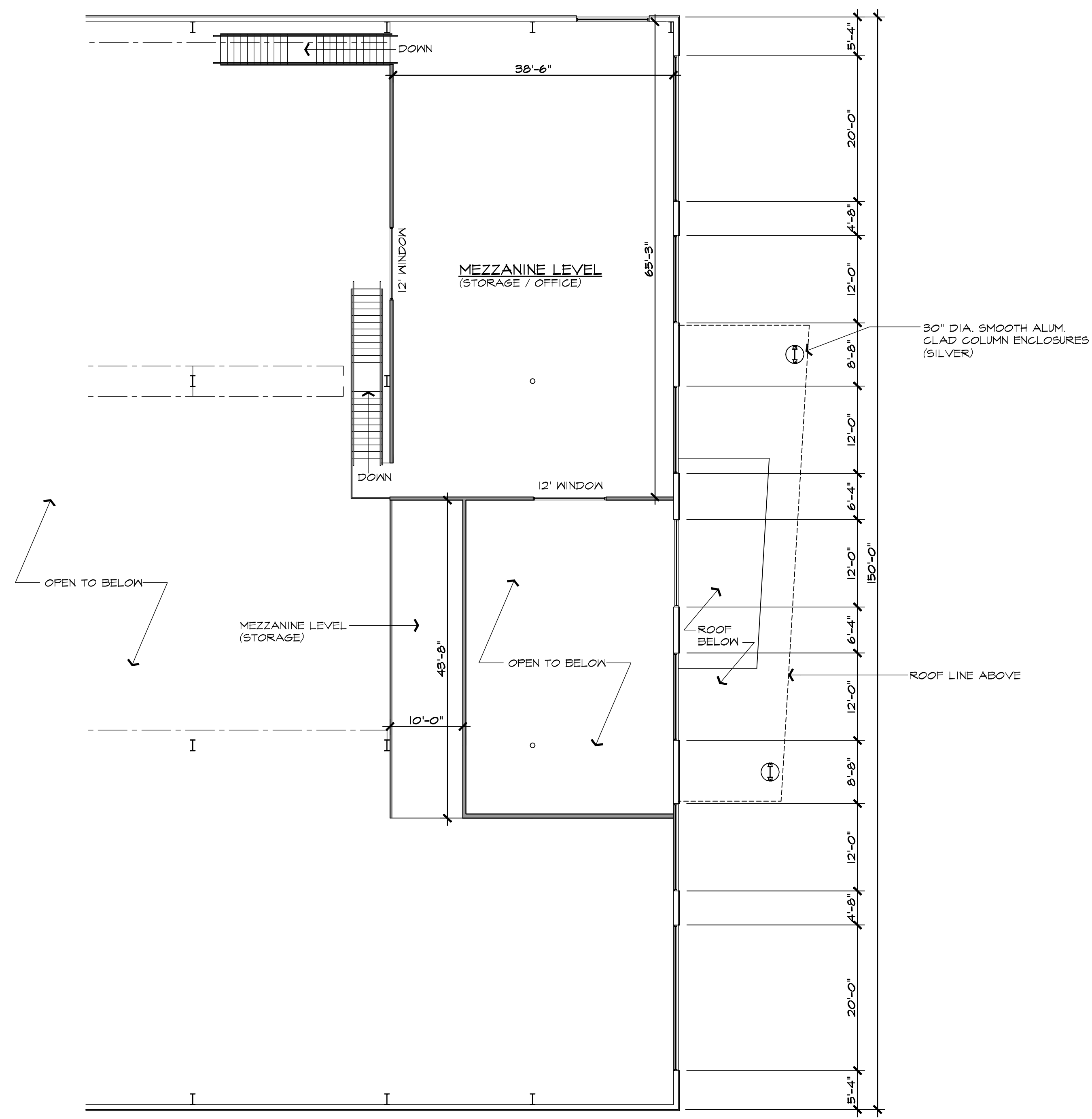
SCALE : 3/32" = 1'-0"

FILE NAME :

JOB # : 18027

SHEET TITLE  
FLOOR PLAN

SHEET #  
**A.102**

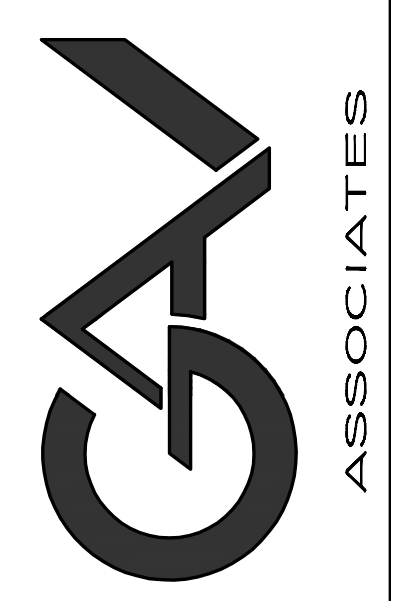


**NORTH**  
**MEZZANINE LEVEL FLOOR PLAN**  
2,955 S.F. SCALE: 3/32" = 1'-0"



ISSUED FOR	DATE
PRELIM	3.9.18
	3.30.18
SFA	4.3.18
	4.25.18

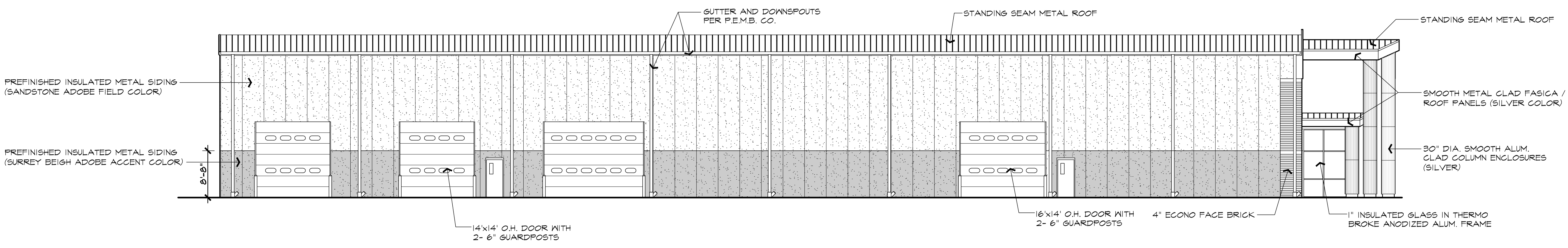
**ARCHITECTURAL DESIGN**  
 RESIDENTIAL COMMERCIAL INDUSTRIAL  
 G.A.V. ASSOCIATES, INC.  
 24021 ORCHARD LAKE RD., STE. 180A  
 FARMINGTON, MICHIGAN 48335  
 PH: (248) 985-9101  
 WEB: WWW.GAVASSOCIATES.COM



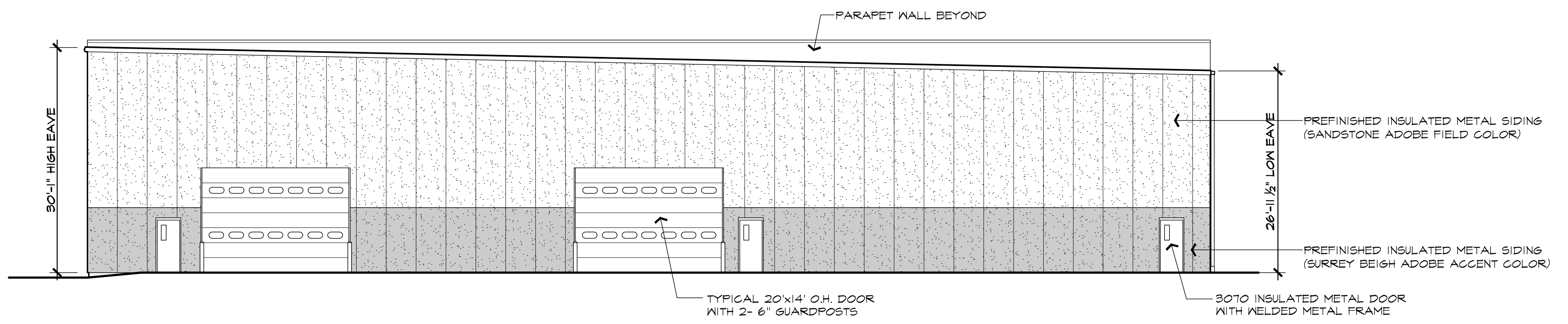
**ACSBUILD, INC.**  
 28525 Beck Road  
 Wixom, Mich. 48393  
 Ph: 248-348-9911  
 Fax: 248-348-9922

PROPOSED NEW FACILITY FOR:  
 TRUCK and TRAILER  
 GENOA TOWNSHIP, MI.

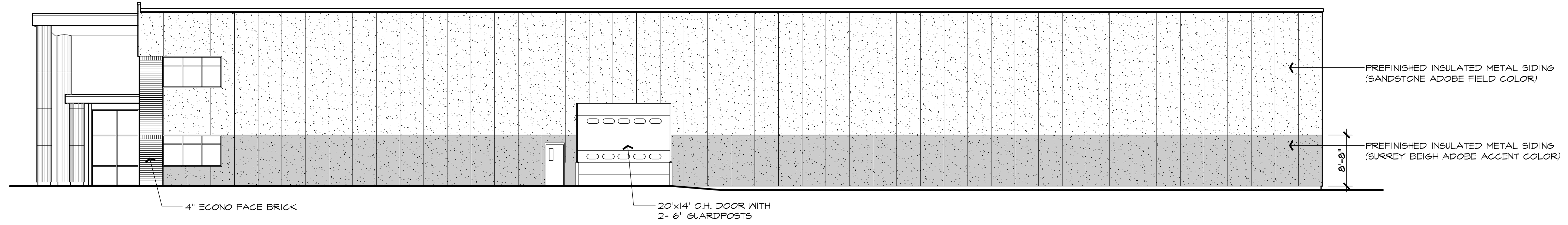
DRAWN:	DESIGNED:	CHECKED:
SCALE: 1/8" = 1'-0"		
FILE NAME:		
JOB #: 18027		
SHEET TITLE		
EXTERIOR ELEVATION		
SHEET #		
A.201		



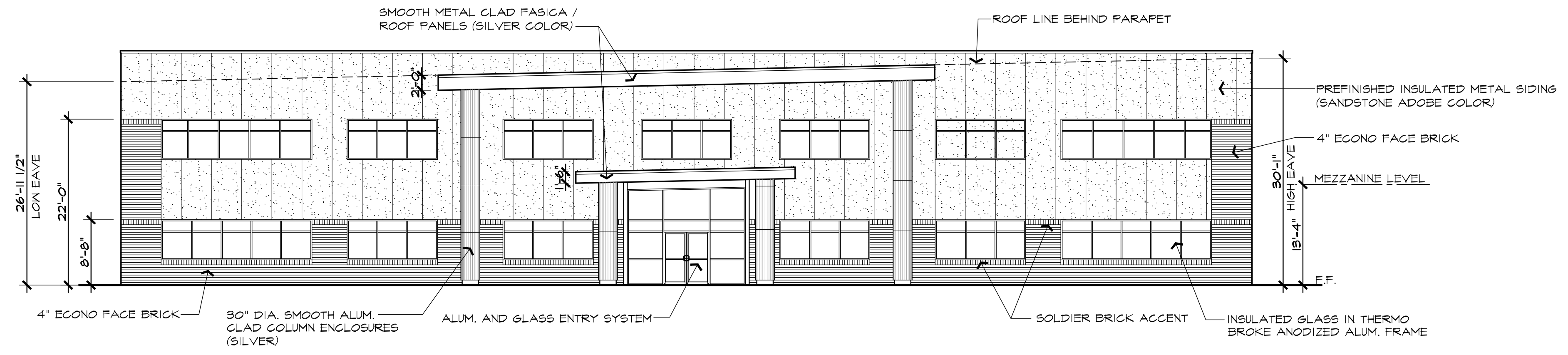
**SOUTH ELEVATION**  
 SCALE: 3/32" = 1'-0"



**WEST ELEVATION**  
 SCALE: 3/32" = 1'-0"



**NORTH ELEVATION**  
 SCALE: 3/32" = 1'-0"



**EAST ELEVATION**  
 SCALE: 3/32" = 1'-0"



**LUMINAIRE SCHEDULE**

Symbol	Label	Qty	Catalog Number	Description	Lamp	Lumens	LLF	Watts
	A	16	LITHONIA TWR2 250M	DIE-CAST GENERAL PURPOSE WALLPACK WITH GLASS REFRACTOR	ONE 250-WATT ED28 PULSE START METAL HALIDE, HORIZONTAL POS. 14' AFF	22000	0.81	288
	B	2	LITHONIA KAD LED 30C 700 30K R3 MVOLT	KAD LED, 30 LED, 700mA MVOLT DRIVER, 3000K, TYPE 3 OPTICS.	LED 15' POLE	Absolute	0.95	69

**STATISTICS**

Description	Symbol	Avg	Max	Min
Calc Zone #1	+	1.0 fc	10.0 fc	0.0 fc



**Capable Luminaire**

This item is an A+ capable luminaire, which has been designed and tested to provide consistent color appearance and system-level interoperability.

- All configurations of this luminaire meet the Acuity Brands' specification for chromatic consistency
- This luminaire is A+ Certified when ordered with I controls marked by a shaded background. DTL D equipped luminaires meet the A+ specification for luminaire to photocontrol interoperability!
- This luminaire is part of an A+ Certified solution for ROAM®2 or XPoint™ Wireless control networks, providing out-of-the-box control compatibility with simple commissioning, when ordered with drivers control options marked by a shaded background

**KAD LED LED Area Luminaire**

**Specifications**  
 EPA: 1.2 ft² (0.11 m²)  
 Length: 17-1/2" (44.3 cm)  
 Width: 17-1/2" (44.3 cm)  
 Height: 7-1/8" (18.1 cm)



Series	LEDs	Drive current	CCT	Distribution	Voltage	Mounting
KAD LED	20C 20 LEDs	530 530mA	30K 3000K	R3 Type II	120V	277'
	30C 30 LEDs	530 530mA	40K 4000K	R3 Type II	120V	347'
	40C 40 LEDs	1000 1000mA	50K 5000K	R4 Type IV	208'	480'
	60C 60 LEDs	1000 1000mA	50K 5000K	R5 Type V	240'	

**LIGHT FIXTURE "B"**



**CSXW LED LED Wall Luminaire**

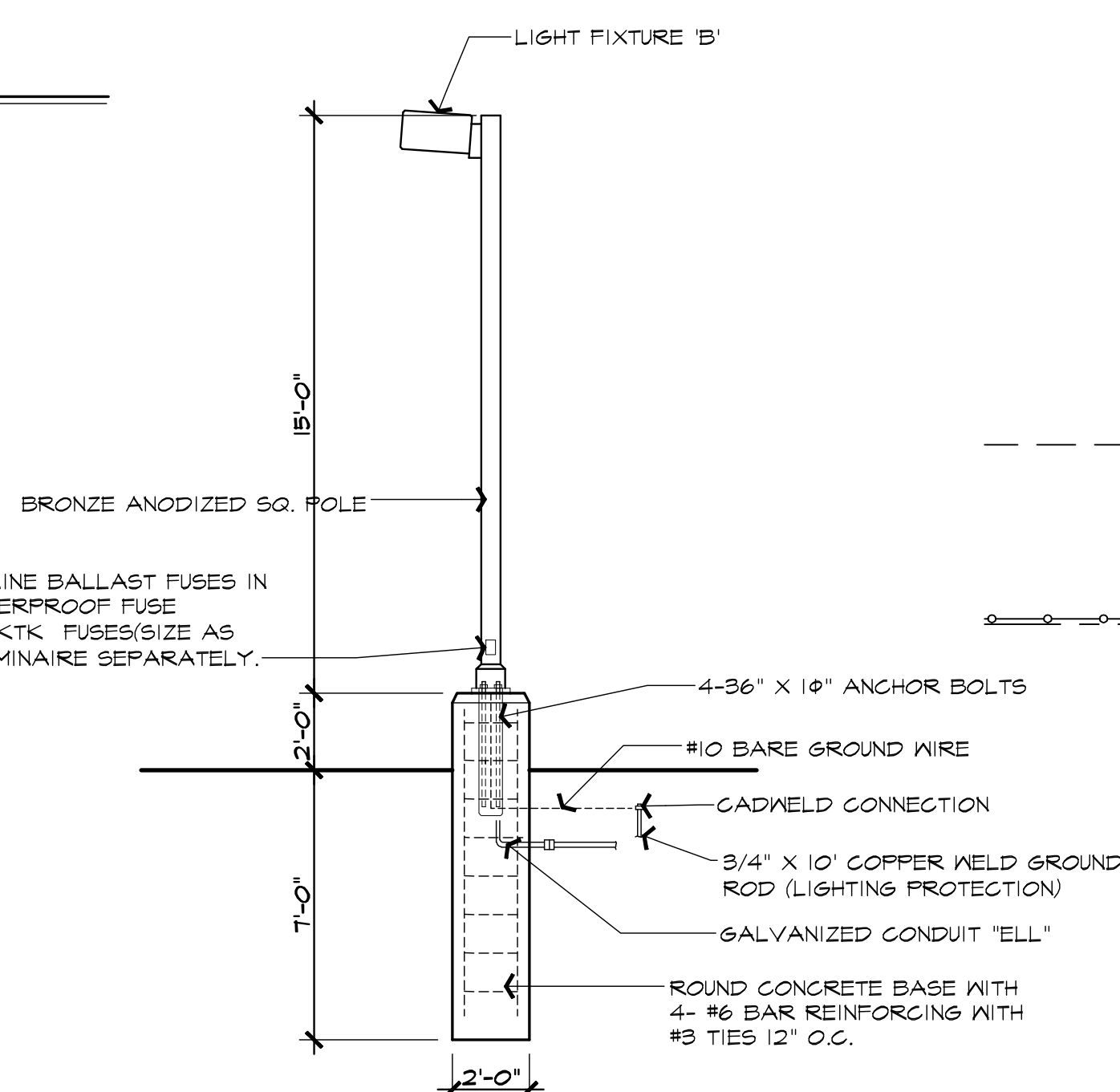
**Specifications**  
 Height: 7-1/8" (18.1 cm)  
 Width: 16-3/8" (41.6 cm)  
 Depth: 9-5/16" (23.8 cm)

**Introduction**

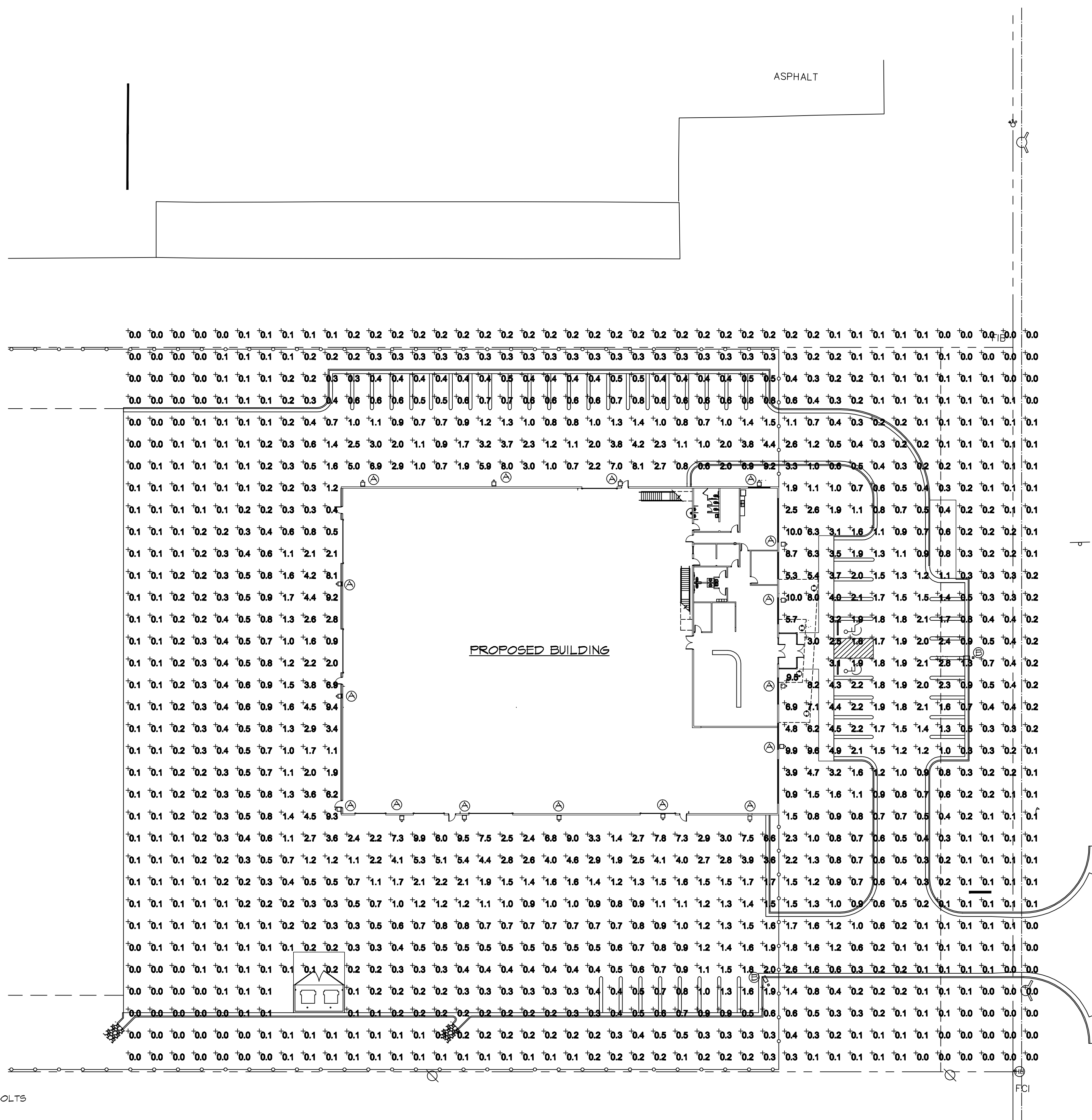
The Contour® Series luminaires offer traditional square dayforms with softened edges for a versatile look that complements many applications. The CSXW LED combines the latest in LED technology with the familiar aesthetic of the Contour® Series for stylish, high-performance illumination that lasts. It is ideal for replacing 100-400W metal halide in wall-mounted applications with typical energy savings of 80% and expected service life of over 100,000 hours.

Series	LEDs	Drive current	Color temperature	Distribution	Voltage	Mounting	Options	Finish (standard)
CSXW LED	30C 30 LEDs	700 mA	30K 3000K	T2M Type II, medium	120V	Shipped included (stand)	Shipped installed	0080D Dark bronze
	30C 30 LEDs	1000 1000mA	40K 4000K	T3M Type III, medium	208'	Surface mount	PE Photocell, c/c, bottom eye*	0010D Black
	30C 30 LEDs	1000 1000mA	50K 5000K	T4M Type IV, medium	240'	Surface mount	DANG 0-10V dimming driver (no controls)	0040D Natural aluminum
	30C 30 LEDs	1000 1000mA	50K 5000K	T5M Type V, medium	277'	Surface-mounted back box (for model copy)*	SF Single-fuse (20, 277, 347V)	0060D White

**LIGHT FIXTURE "A"**



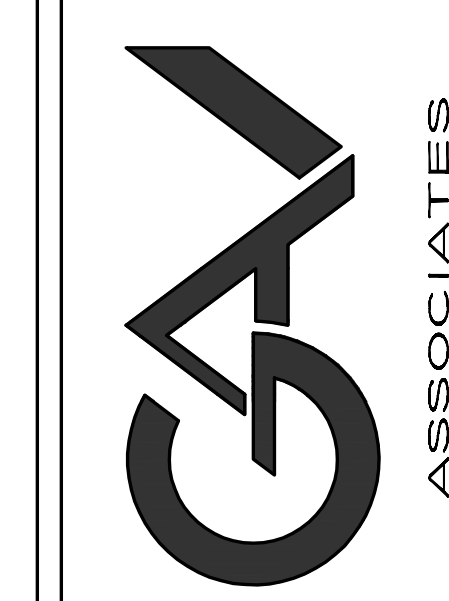
FURNISH AND INSTALL IN-LINE BALLAST FUSES IN BUSSMANN "TRON" WEATHERPROOF FUSE HOLDERS #HEB-AD WITH #KTK FUSES(SIZE AS REQUIRED). FUSE EACH LUMINAIRE SEPARATELY.



**SITE LIGHTING PHOTOMETRIC PLAN**

ISSUED FOR	DATE
SFA	4.3.18
	4.25.18

**ARCHITECTURAL DESIGN**  
 RESIDENTIAL  
 COMMERCIAL  
 INDUSTRIAL  
 G.A.V. ASSOCIATES, INC.  
 24001 ORCHARD LAKE RD., STE. 180A  
 FARMINGTON, MICHIGAN 48336  
 PH: (248) 988-9911  
 WEB: WWW.GAVASSOCIATES.COM



**ACSBUILD, INC.**  
 28525 Beck Road  
 Wixom, Mich. 48393  
 Ph: 248-348-9911  
 Fax: 248-348-9922

**PROPOSED NEW FACILITY FOR:  
 TRUCK and TRAILOR  
 GENOA TOWNSHIP, MI.**

DRAWN:	DESIGNED:	CHECKED:

SCALE : 1" = 30'  
 FILE NAME :  
 JOB # : 18027  
 SHEET TITLE  
 PHOTOMETRIC PLAN  
 SHEET #  
**SD.101**

