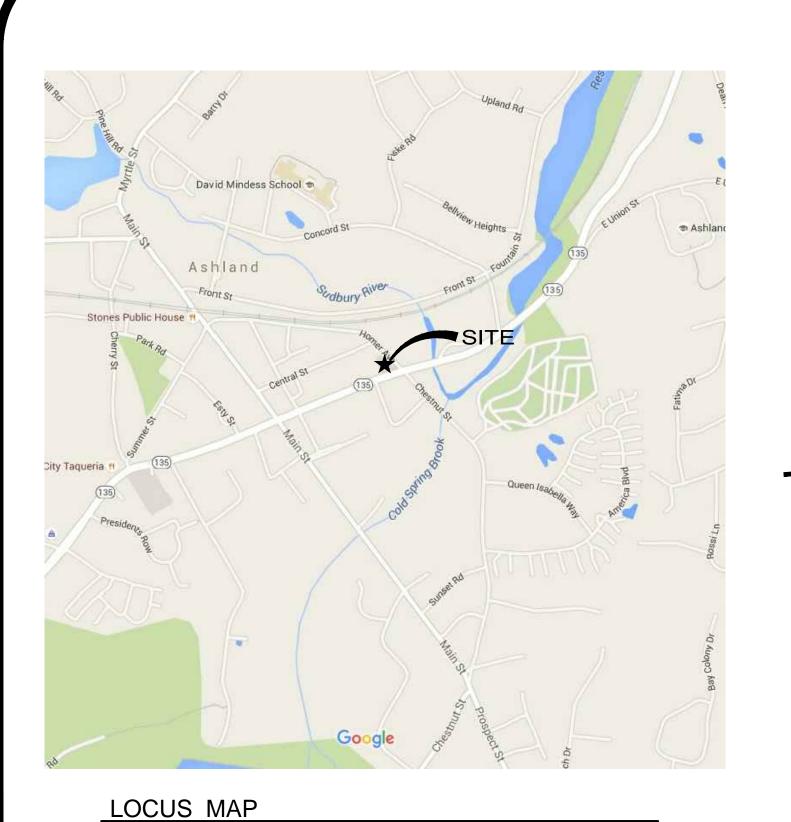
### SEASON'S CORNER MARKET SITE IMPROVEMENT PLANS

125 UNION STREET ASHLAND, MA

PREPARED FOR:

COLBEA ENTERPRISES, LLC

2050 PLAINFIELD PIKE CRANSTON, RI



ARCHITECTURAL & CIVIL PREPARED BY: ENGINEERS & ARCHITECTS

414 BENEFIT STREET PAWTUCKET, RHODE ISLAND 02861 401-728-5533

INDEX OF DRAWINGS

SHEET TITLE GENERAL

COVER

CIVIL EXISTING CONDITIONS PLAN SITE DEMOLITION PLAN C-1 SITE IMPROVEMENT PLAN

C-2 SITE GRADING PLAN C-3 SITE UTILITY PLAN

SITE LANDSCAPE PLAN

SOIL EROSION & SEDIMENT CONTROL PLAN LIGHTING PROPOSAL

DRIVE-THRU QUEUE PLAN Q-2 DISPENSER QUEUE PLAN Q-3 TANKER PATH PLAN EXISTING SIGNAGE PLAN

SG-2 PROPOSED SIGNAGE PLAN SD-1 SITE DETAIL SHEET SD-2 SITE DETAIL SHEET SD-3

SD-4 SITE DETAIL SHEET SC-310 CHAMBER

SITE DETAIL SHEET

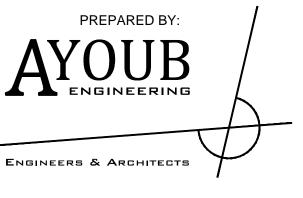
A1.0 BASEMENT FLOOR PLAN A1.1 MAIN LEVEL FLOOR PLAN EXTERIOR ELEVATIONS A2.1 EXTERIOR ELEVATIONS

### SEASON'S CORNER

### **MARKET**

125 UNION STREET ASHLAND, MA

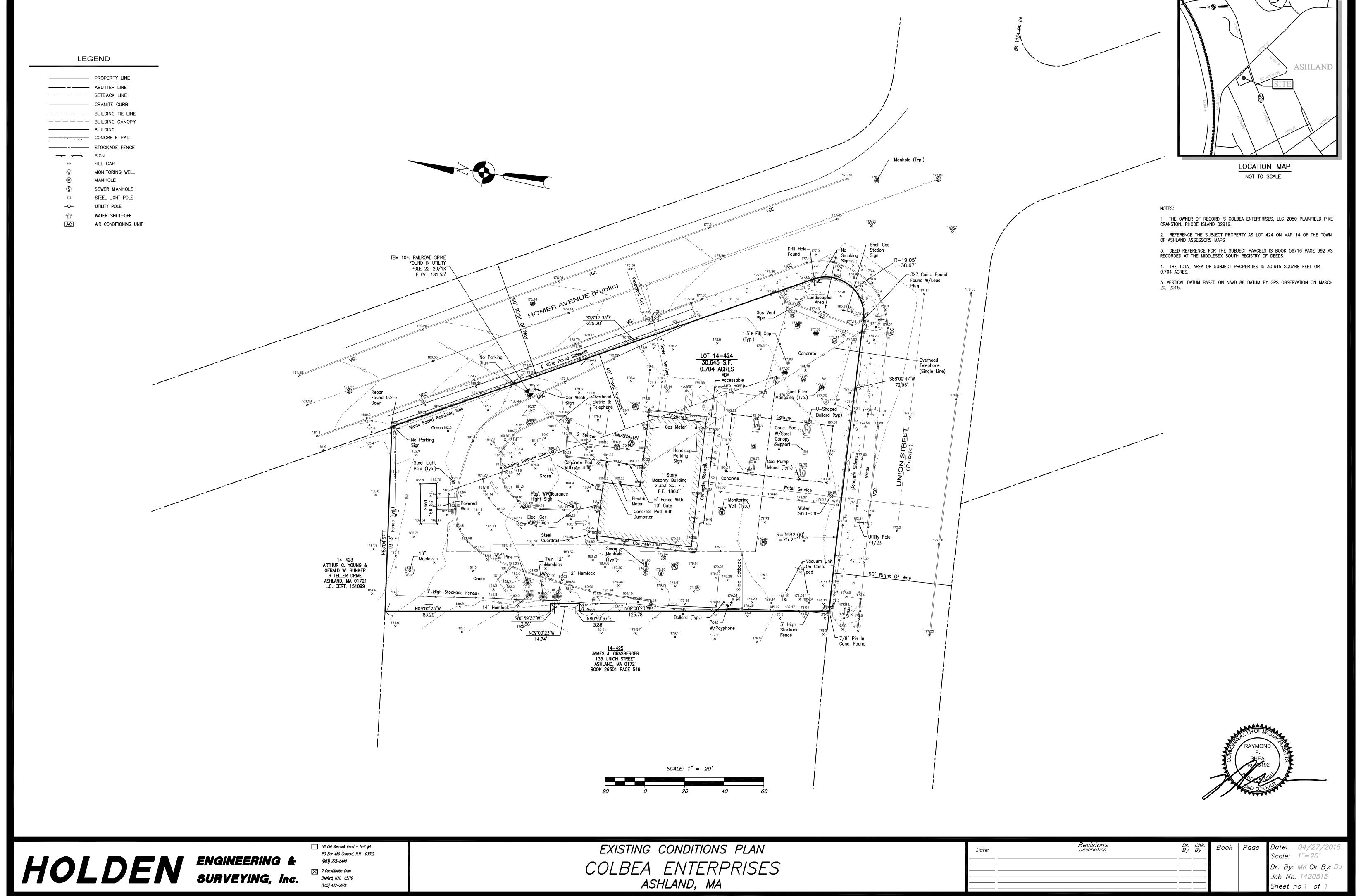
PREPARED FOR: COLBEA ENTERPRISES, LLC 2050 PLAINFIELD PIKE CRANSTON, RI



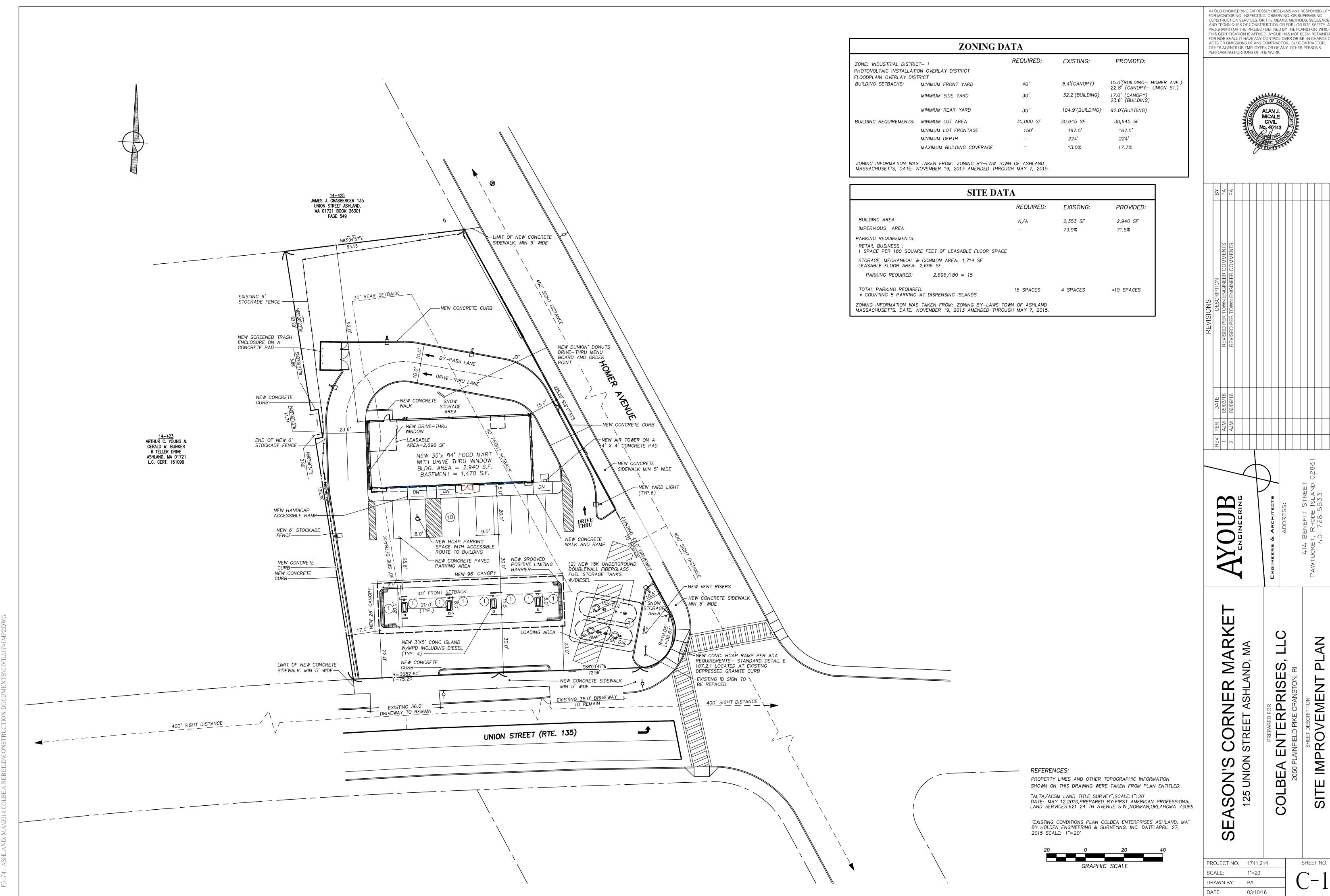
PAWTUCKET, RHODE ISLAND 02861 401-728-5533

PROJECT NO. 1741.214

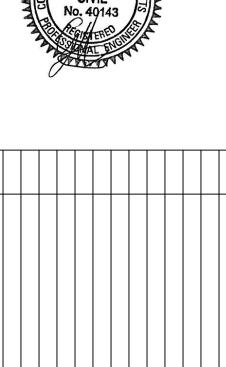
REVISED: 06/09/16 DATE: 03/10/16



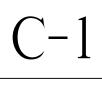
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AYOUB ENGINEERING EXPRESSLY DISCLAIMS ANY RESPONSIBILITY FOR MONITORING, INSPECTING, OBSERVING, OR SUPERVISING CONSTRUCTION SERVICES, OR THE MEANS, METHODS, SEQUENCES AND TECHNIQUES OF CONSTRUCTION OR FOR JOB SITE SAFETY AND PROGRAMS FOR THE PROJECT DEFINED BY THE PLANS FOR WHICH THIS CERTIFICATION IS AFFIXED. AYOUB HAS NOT BEEN RETAINED FOR NOR SHALL IT HAVE ANY CONTROL OVER OR BE IN CHARGE OF ACTS OR OMISSIONS OF ANY CONTRACTOR, SUBCONTRACTOR, OTHER AGENTS OR EMPLOYEES OR OF ANY OTHER PERSONS



| ENGINEERING | 1 |  | ENGINEERS & ARCHITECTS | ADDRESS: |  | 414 BENEFIT STREET | PAWTUCKET, RHODE ISLAND 02861 | 401-728-5533 |  |
|-------------|---|--|------------------------|----------|--|--------------------|-------------------------------|--------------|--|



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DRAWN BY: PA

03/10/16

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GENERAL NOTES:

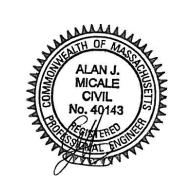
### **UTILITY NOTES:**

- NEW WATERLINE TO BE 1¼" INCH TYPE K COPPER SERVICE. COORDINATE INSTALLATION TO EXISTING MAIN WITH LOCAL WATER DEPARTMENT. IF NEW SERVICE IS REQUIRED WATER SERVICE SHALL BE INSTALLED PER LOCAL WATER DEPT.
- CONTRACTOR SHALL VERIFY ELEVATION OF EXISTING SANITARY SEWER WITHIN MANHOLE AND CONNECT NEW SEWER TO EXISTING MANHOLE USING APPROVED METHODS.
- 3. CONTRACTOR SHALL SAWCUT AND REPAVE AS REQUIRED PER PLAN TO FACILITATE UTILITY INSTALLATION AND CONSTRUCTION OF NEW CURBS.
- 4. INSTALLATION OF GAS SERVICE AND METER SHALL BE APPROVED BY AND COORDINATED WITH TOWN AND LOCAL GAS COMPANY.
- 5. INSTALLATION OF NEW ELECTRIC/CABLE/TELEPHONE SERVICES SHALL BE APPROVED BY AND COORDINATED WITH TOWN AND LOCAL UTILITY COMPANIES.

### **GENERAL CONSTRUCTION NOTES:**

- THE MATERIALS AND CONSTRUCTION OF ALL PROPOSED UTILITIES SHALL CONFORM TO THE TOWN D.P.W. STANDARDS AND SPECIFICATIONS AND ALL APPLICABLE D.P.W. STANDARDS AND SPECIFICATIONS, LATEST EDITION.
- 2. THE LOCATION AND ELEVATION OF ALL EXISTING UTILITIES SHALL BE CONSIDERED APPROX. AND MUST BE VERIFIED BY THE CONTRACTOR PRIOR TO ANY CONSTRUCTION. UNDERGROUND UTILITIES SHOWN ARE FROM FIELD OBSERVATION AND THE BEST AVAILABLE RECORD INFOR— MATION AND ARE NOT WARRANTED TO BE EXACT, NOR IS IT WARRANTED THAT ALL UNDER—GROUND PIPES OR STRUCTURES ARE SHOWN. THE CONTRACTOR SHALL CONTACT THE RESPECTIVE UTILITY COMPANIES RELATIVE TO THE LOCATION AND ELEVATION OF ALL EXISTING LINES.
- 3. THE CONTRACTOR SHALL CONTACT "DIG SAFE" AT 1-800-922-4455, 72 HOURS PRIOR TO ANY EXCAVATION AND/OR SUBSURFACE TESTING TO INFORM THE UTILITY COMPANIES OF ANY EXCAVATION.

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|           |             |                                    |                                    |        | _ | <br>_ |   |     |     |        |            |      |  |  |
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|           | ВУ          | ΡA                                 | PA                                 |        |   |       |   |     |     |        |            |      |  |  |
| REVISIONS | DESCRIPTION | REVISED PER TOWN ENGINEER COMMENTS | REVISED PER TOWN ENGINEER COMMENTS |        |   |       |   |     |     |        |            |      |  |  |
|           | DATE        | 05/03/16                           | 06/09/16                           |        |   |       |   |     |     |        |            |      |  |  |
|           | PER         | AJM                                | AJM                                |        |   |       |   |     |     |        |            |      |  |  |
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## VER MARKET ASHLAND, MA OR PRISES. LLC

SON'S CORNER MARK 125 UNION STREET ASHLAND, MA

PROJECT NO. 1741.214

SCALE: 1"=20'

DRAWN BY: PA

DATE: 03/10/16

SHEET NO.

C-3

BE

OL

2015 SCALE: 1"=20'

20 0 20 40

DATE: MAY 12,2010,PREPARED BY: FIRST AMERICAN PROFESSIONAL. LAND SERVICES.621 24 TH AVENUE S.W.,NORMAN,OKLAHOMA 73069

"EXISTING CONDITIONS PLAN COLBEA ENTERPRISES ASHLAND, MA" BY HOLDEN ENGINEERING & SURVEYING, INC. DATE: APRIL 27,

PROPERTY LINES AND OTHER TOPOGRAPHIC INFORMATION SHOWN ON THIS DRAWING WERE TAKEN FROM PLAN ENTITLED:

"ALTA/ACSM LAND TITLE SURVEY", SCALE: 1": 20'

REFERENCES:

AYOUB ENGINEERING EXPRESSLY DISCLAIMS ANY RESPONSIBILITY FOR MONITORING, INSPECTING, OBSERVING, OR SUPERVISING CONSTRUCTION SERVICES, OR THE MEANS, METHODS, SEQUENCES AND TECHNIQUES OF CONSTRUCTION OR FOR JOB SITE SAFETY AND PROGRAMS FOR THE PROJECT DEFINED BY THE PLANS FOR WHICH THIS CERTIFICATION IS AFFIXED. AYOUB HAS NOT BEEN RETAINED FOR NOR SHALL IT HAVE ANY CONTROL OVER OR BE IN CHARGE OF ACTS OR OMISSIONS OF ANY CONTRACTOR, SUBCONTRACTOR, OTHER AGENTS OR EMPLOYEES OR OF ANY OTHER PERSONS PERFORMING PORTIONS OF THE WORK.



|           | BY          | PA                                 |  |  |  |  |  |  |  |  |
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| REVISIONS | DESCRIPTION | REVISED PER TOWN ENGINEER COMMENTS |  |  |  |  |  |  |  |  |
|           | DATE        | 06/09/16                           |  |  |  |  |  |  |  |  |
|           | PER         | AJM                                |  |  |  |  |  |  |  |  |
|           | REV         | 1                                  |  |  |  |  |  |  |  |  |

ENGINEERING

ADDRESS:

A14 BENEFIT STREET

PAWTUCKET, RHODE ISLAND 02861

401-728-5533

PIKE, CRANSTON, RI

DESCRIPTION

SACAPE PLAN

SHEET DESCRIPTION
SHEET DESCRIPTION

PROJECT NO. 1741.214

SCALE: AS NOTED

DRAWN BY: RCD

DATE: 03/10/16

EROSION CONTROL & SOIL STABILIZATION PROGRAM TEMPORARY STABILIZATION

- 1. DENUDED SLOPES SHALL NOT BE UNATTENDED OR EXPOSED FOR EXCESSIVE PERIODS OF TIME.
  - ALL DISTURBED SLOPES, SHALL BE SEEDED AND PROTECTED. THE TOPSOIL SHALL HAVE A SANDY LOAM TEXTURE RELATIVELY FREE OF SUBSOIL MATERIAL, STONES, ROOTS, LUMPS OF SOIL, TREE LIMBS,
- TRASH OR CONSTRUCTION DEBRIS AND SHALL CONFORM WITH THE LOCAL & STATE D.O.T STANDARDS. 4. THE SEED MIX SHALL BE INOCULATED WITHIN 24 HOURS, BEFORE MIXING AND PLANTING, WITH APPROPRIATE INOCULUM FOR EACH VARIETY.
- 5. THE DESIGN MIX SHALL BE COMPRISED OF THE FOLLOWING PERMANENT SEEDING MIXTURES:

<u>MIXTURE</u> POUNDS PER 1000 S.F. RED FESCUE

COLONIAL BENTGRASS, 'EXETER' PERENNIAL RYEGRASS BIRDSFOOT TREFOIL, 'EMPIRE'

RECOMMENDED PLANTING DATES: 5/1-6/15 & 8/15-9/30

- 6. TEMPORARY TREATMENTS SHALL CONSIST OF A HAY, STRAW, OR FIBER MULCH OR PROTECTIVE COVER SUCH AS A MAT OR FIBER LINING (BURLAP, JUTE, FIBERGLASS NETTING, EXCELSIOR BLANKETS). THEY SHALL BE INCORPORATED INTO THE WORK AS WARRANTED OR AS ORDERED BY THE OWNER.
- 7. HAY OR STRAW APPLICATIONS SHOULD BE IN THE AMOUNT OF 3 TONS/ACRE MAXIMUM. 8. ALL HAY BALES OR TEMPORARY PROTECTION SHALL REMAIN IN PLACE
- UNTIL AN ACCEPTABLE STAND OF GRASS OR APPROVED GROUND COVER IS ESTABLISHED. 9. THE CONTRACTOR MUST REPAIR AND/OR RESEED ANY AREAS THAT DO
- NOT DEVELOP WITHIN A PERIOD OF ONE YEAR AND SHALL DO SO AT NO ADDITIONAL EXPENSE.
- 10. ALL FILL SHALL BE THOROUGHLY COMPACTED UPON PLACEMENT. 11. STABILIZATION OF ONE FORM OR ANOTHER AS DESCRIBED ABOVE SHALL BE ACHIEVED WITHIN 15 DAYS OF FINAL GRADING.
- 12. STOCKPILES OF TOPSOIL SHALL NOT BE LOCATED NEAR WATERWAYS, SHALL HAVE SIDE SLOPES NO GREATER THAN 30% AND SHALL ALSO BE SEEDED AND/OR STABILIZED. 13. ON BOTH STEEP AND LONG SLOPES CONSIDERATION SHALL BE GIVEN TO
- "CRIMPING" BY USE OF A MULCH ANCHORING TOOL TO PUNCH MULCH DOWN INTO THE SOIL OR "TACKING" WITH A LIQUID TACKIFIER SUCH AS EMULSIFIED ASPHALT TO TACK DOWN MULCH APPLICATIONS AS REQUIRED FOR STABILITY.
- 14. THE DRAINAGE SYSTEM SHALL RECEIVE ONE FINAL CLEANING PRIOR TO ACCEPTANCE OF THE OVERALL PROJECT BY THE OWNER. SEDIMENTS SHALL BE DISPOSED OF IN A PROPER MANNER.

### ORDER OF PROCEDURE

- 1. IMMEDIATELY UPON COMPLETION OF THE CLEARING OPERATION AND PRIOR TO ANY ROUGH GRADING, TEMPORARY HAY BALES AND SILT FENCES SHALL BE PLACED OUTSIDE THE LIMITS OF CONSTRUCTION PER
- 2. ALL EROSION AND SEDIMENTATION CONTROL STRUCTURES SHALL BE PERIODICALLY MAINTAINED AS PER THE RESPECTIVE PROGRAMS FOR TEMPORARY CONTROL 3. IF WORK PROGRESS IS SUSPENDED FOR 30 DAYS, IMPLEMENT
- TEMPORARY CONTROLS. 4. TEMPORARY HAY BALES AND SILT FENCES ALONG AND AT THE ENDS OF ROADWAYS MAY ALSO BE REMOVED AFTER FINAL SOIL STABILIZATION
- HAS BEEN ACHIEVED AND APPROVED. 5. INLET PROTECTIONS MUST REMAIN UNTIL SUCH TIME THAT A DESIRABLE
- STAND OF GRASS OR COVER HAS BEEN ESTABLISHED AND THE PROJECT RECEIVES A FAVORABLE APPROVAL FOR FINAL ACCEPTANCE FROM THE
- 6. ESTIMATED TIME OF CONSTRUCTION, 6 MONTHS.

### POST CONSTRUCTION PHASE

ONCE CONSTRUCTION IS COMPLETE, POST DEVELOPMENT STORM WATER CONTROLS ARE TO BE OPERATED AND MAINTAINED IN COMPLIANCE WITH THE FOLLOWING PERMANENT MAINTENANCE PROCEDURES:

- 1. CATCH BASINS SHALL BE INSPECTED AND CLEANED ON A QUARTERLY BASIS OR AFTER LARGE RAINFALL EVENT.
- 2. ALL CATCH BASINS SHALL BE TREATED WITH MOSQUITO LARVICIDE AS
- 3. IN CASE OF OIL SPILL, CLEAN UP SHALL BE PERFORMED IMMEDIATELY.
  4. ALL PAVED AREAS ON—SITE ARE TO BE SWEPT ONCE A MONTH DURING
- THE LATE SPRING, SUMMER AND EARLY FALL SEASONS AT A MINIMUM OR AS REQUIRED TO PREVENT SEDIMENT ACCUMULATION. 5. ALL LANDSCAPED AREAS ARE TO BE MAINTAINED. IN GRASSED AREAS BARE SOIL SHOULD BE RESEEDED WITH GRASS. ALL SOIL AROUND THE
- PLANTS SHOULD BE MULCHED WITH A MINIMUM OF 4". 6. THE COORDINATION OF PARKING LOT SWEEPING WILL BE THE RESPONSIBILITY OF THE OWNER/OPERATOR.
- 7. SEDIMENT ACCUMULATION FROM THE PARKING LOT SWEEPING SHALL BE DISPOSED OF IN ACCORDANCE WITH ALL LOCAL, STATE, AND FEDERAL LAWS AND WILL BE RESPONSIBILITY OF THE OWNER/OPERATOR. 8. SNOW SHALL BE STORED AS NOTED ON PLANS, AND SHALL BE
- REMOVED FROM THE SITE AND PROPERLY DISPOSED OF, IF REQUIRED, AFTER LARGE SNOWSTORM EVENTS. 9. THE OWNER/OPPERATOR WILL BE THE RESPONSIBLE PARTY FOR POST
- CONSTRUCTION STORMWATER SYSTEM OPERATION AND MAINTENANCE. THE OWNER/OPPERATOR IS REQUIRED TO MAINTAIN A RECORD KEEPING LOG OF ALL REQUIRED AND PROPOSED MAINTENANCE.

### EROSION/SEDIMENT CONTROL BARRIER NOTES

REFERENCES:

2015 SCALE: 1"=20'

- 1. BALES SHOULD BE PLACED IN A SINGLE ROW, LENGTHWISE ON THE CONTOUR, WITH ENDS OF ADJACENT BALES TIGHTLY ABUTTING ONE
- 2. ALL BALES SHOULD BE EITHER WIRE-BOUND OR STRING-TIED. BALES SHOULD BE INSTALLED SO THAT BINDINGS ARE ORIENTED AROUND THE SIDES RATHER THAN ALONG THE TOPS AND BOTTOMS OF THE BALES TO
- PREVENT DETERIORATION OF THE BINDINGS. 3. THE BARRIER SHOULD BE ENTRENCHED AND BACKFILLED. A TRENCH SHOULD BE EXCAVATED THE WIDTH OF A BALE AND THE LENGTH OF THE PROPOSED BARRIER TO A MINIMUM DEPTH OF 4 INCHES. AFTER THE BALES ARE STAKED AND CHINKED, THE EXCAVATED SOIL SHOULD CONFORM TO THE GROUND LEVEL ON THE DOWNHILL SIDE AND SHOULD
- BE BUILT UP TO 4 INCHES AGAINST THE UPHILL SIDE OF THE BALES 4. EACH BALE SHOULD BE SECURELY ANCHORED BY AT LEAST TWO 1"X3"X36" STAKES DRIVEN THROUGH THE BALE. THE FIRST STAKE IN EACH BALE SHOULD BE DRIVEN TOWARD THE PREVIOUSLY LAID BALE TO FORCE THE BALES TOGETHER. STAKES SHOULD BE DRIVEN DEEP ENOUGH INTO THE GROUND TO SECURELY ANCHOR THE BALES.

PROPERTY LINES AND OTHER TOPOGRAPHIC INFORMATION SHOWN ON THIS DRAWING WERE TAKEN FROM PLAN ENTITLED:

DATE: MAY 12,2010, PREPARED BY: FIRST AMERICAN PROFESSIONAL. LAND SERVICES.621 24 TH AVENUE S.W., NORMAN, OKLAHOMA 73069

"EXISTING CONDITIONS PLAN COLBEA ENTERPRISES ASHLAND, MA" BY HOLDEN ENGINEERING & SURVEYING, INC. DATE: APRIL 27,

GRAPHIC SCALE

"ALTA/ACSM LAND TITLE SURVEY", SCALE: 1": 20'

# NOINO

BE

PROJECT NO. 1741.214 SCALE: 1"=20' DRAWN BY: DATE:

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PERFORMING PORTIONS OF THE WORK.

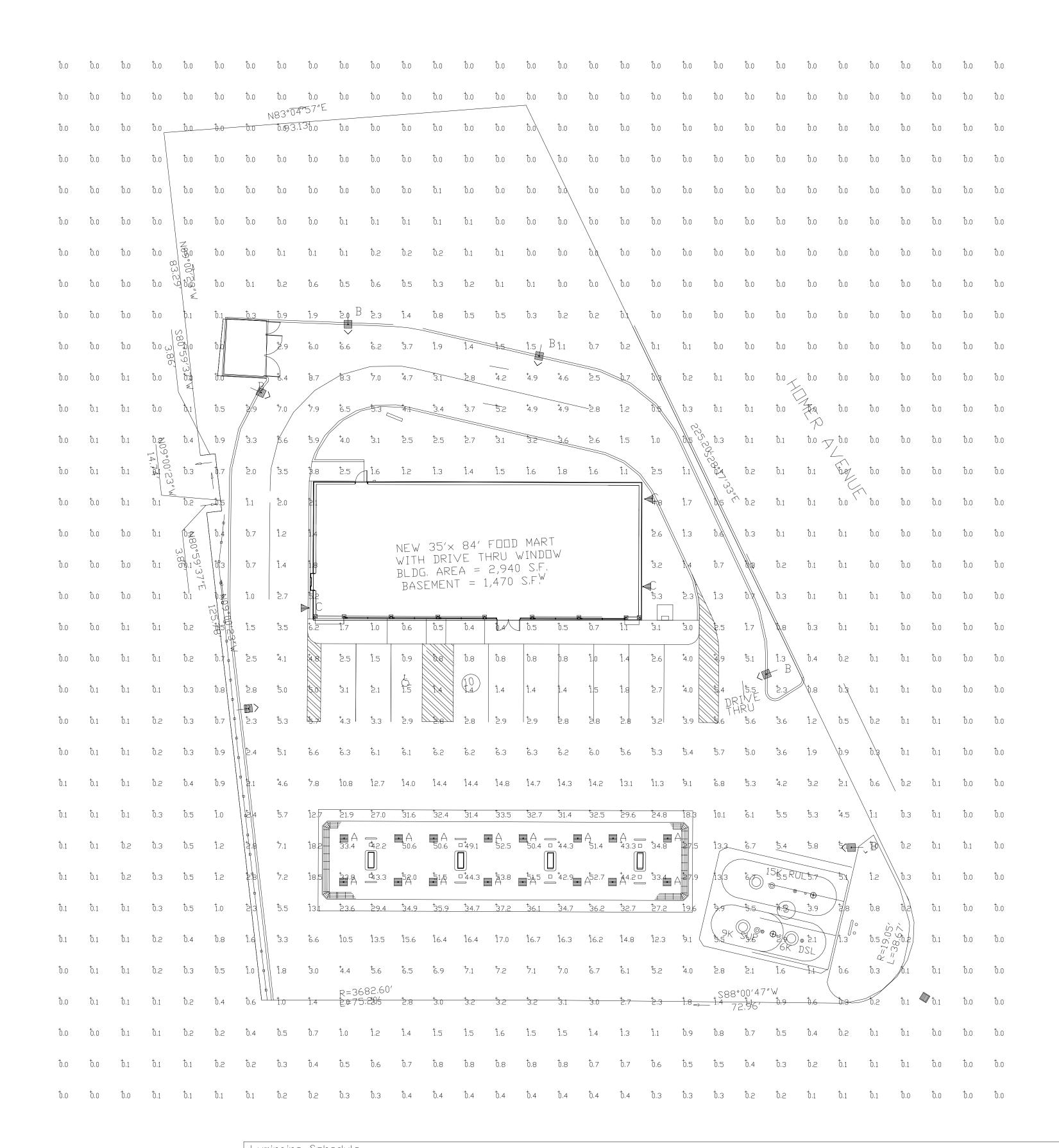
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03/10/16



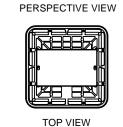




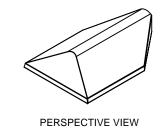


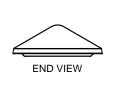
LED Area Light

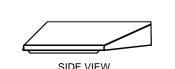
**BOTTOM VIEW** 



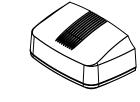
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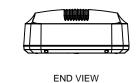






### PWM LED Wall Mount Light





PERSPECTIVE VIEW



| Symbol  | Qty | Label | Arrangement | Description   | LLF   | Lumens/Lamp | Arr. Lum. Lumens | Arr. Watts |
|---------|-----|-------|-------------|---|-------|-------------|------------------|------------|
| <b></b> | 16  | А     | SINGLE      | CRUS-SC-LED-LW-CW-UE - 15' MH                         | 1.000 | N.A.        | 10871            | 87.9       |
|         | > 6 | В     | SINGLE      | XASU-FT-LED-64-HO-CW-HSS-SINGLE ON 14' POLE + 2' BASE | 1.000 | N.A.        | 6001             | 88         |
|         | 3   | С     | SINGLE      | PWM-S-LED-LW-CW-UE - 10' MH                           | 1.000 | N.A.        | 1440             | 15.1       |

ALL CALC POINTS CANOPY INSIDE CURB

This lighting plan represents illumination levels calculated from laboratory data taken under controlled conditions in accordance with The Illuminating Engineering Society (IES) approved methods. Actual performance of any manufacturer's luminaires may vary due to changes in electrical voltage, tolerance in lamps/LED's and other variable field conditions. Calculations do not include obstructions such as buildings, curbs, landscaping, or any other architectural elements unless noted.

Based on the information provided, all dimensions and luminaire locations

shown represent recommended positions. The engineer and/or architect must

determine the applicability of the layout to existing or future field conditions.

Calculation Summary Label CalcType Units Max Min Avg/Min Max/Min Avg 0.0 3.17 N.A. 53.8 N.A. | Illuminance Fc 37.31 53,8 18.3 2.04 2.94 | Illuminance Fc 5.09 18.5 0.6 8.48 30,83 | Illuminance

Total Project Watts Total Watts = 1979.7

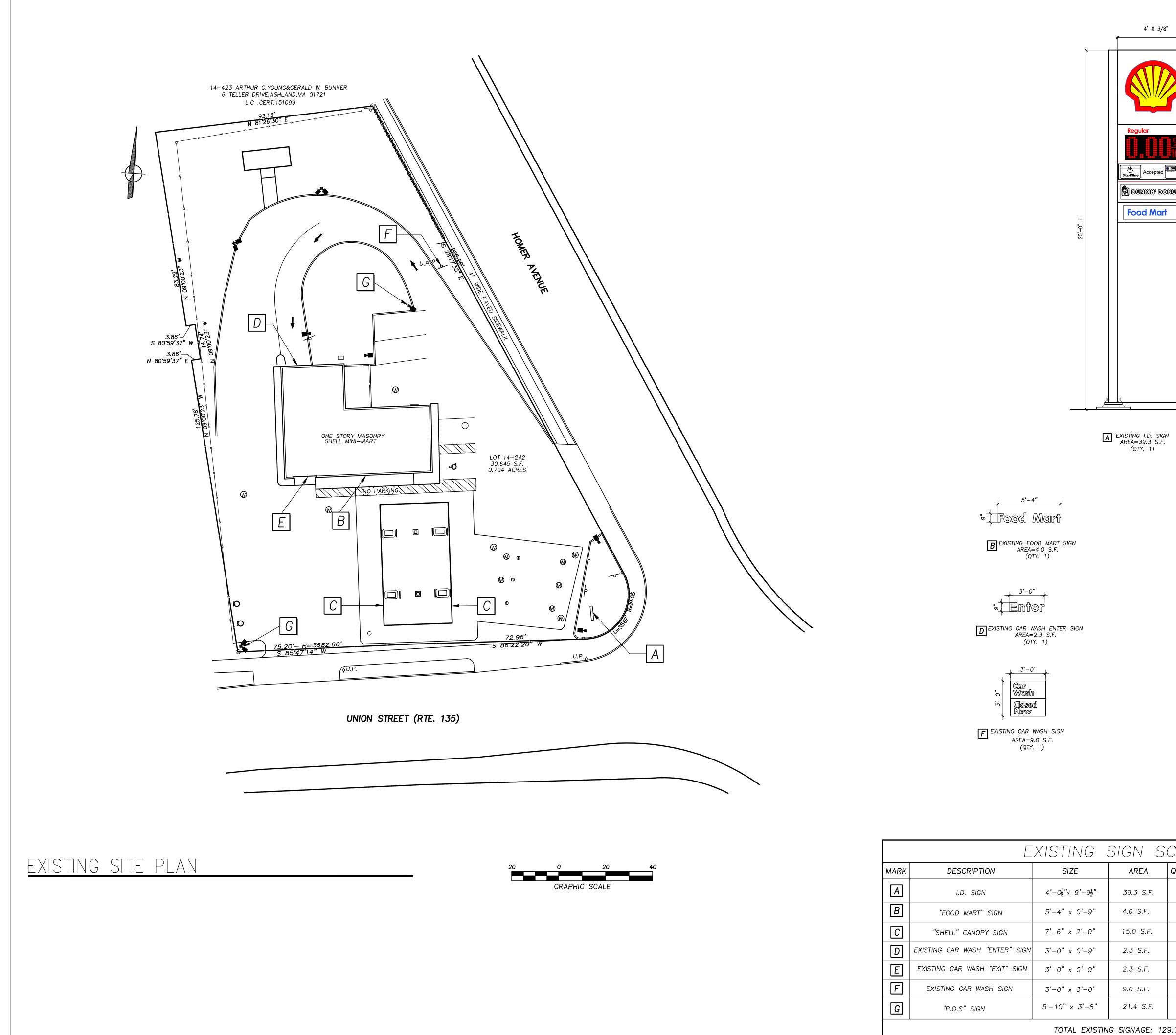


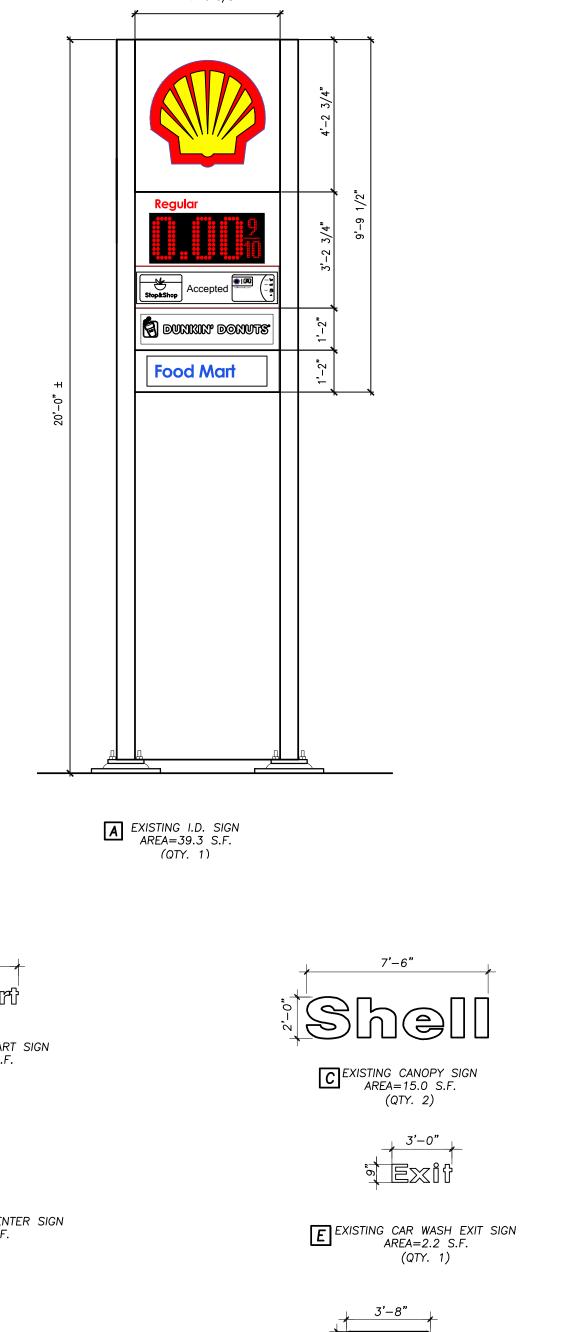
SCALE: 1"=16'



LD-130474-2 LIGHTING PROPOSAL FOOD MART 123 UNION STREET ASHLAND,MA REV:5/3/16

| -       |          |
|---------|----------|
| ECT NO. | 1741.214 |
| E:      | 1"=20'   |
| VN BY:  | RCD      |
| :       | 4/14/16  |





P.O.S.

G EXISTING P.O.S SIGN AREA=21.3 S.F. (QTY. 2)

|      |                                | VICTINIC                                 |               | $\bigcirc$ $\square$ $\subseteq$ |            |               |               |
|------|--------------------------------|--|---------------|----------------------------------|------------|---------------|---------------|
|      |                                | XISTING                                  | )             | $\bigcup \prod \subseteq$        | JULE       |               |               |
| MARK | DESCRIPTION                    | SIZE                                     | AREA          | QUAN.                            | SQUARE FT. | INT. ILLUM'D. | REMARKS       |
| A    | I.D. SIGN                      | $4'-0\frac{3}{8}$ "x $9'-9\frac{1}{2}$ " | 39.3 S.F.     | 1                                | 39.3 S.F.  | YES           | TO BE REFACED |
| В    | "FOOD MART" SIGN               | 5'-4" x 0'-9"                            | 4.0 S.F.      | 1                                | 4.0 S.F.   | NO            | TO BE REMOVED |
| С    | "SHELL" CANOPY SIGN            | 7'-6" x 2'-0"                            | 15.0 S.F.     | 2                                | 30.0 S.F.  | YES           | TO BE REMOVED |
| D    | EXISTING CAR WASH "ENTER" SIGN | 3'-0" x 0'-9"                            | 2.3 S.F.      | 1                                | 2.3 S.F.   | NO            | TO BE REMOVED |
| E    | EXISTING CAR WASH "EXIT" SIGN  | 3'-0" x 0'-9"                            | 2.3 S.F.      | 1                                | 2.3 S.F.   | NO            | TO BE REMOVED |
| F    | EXISTING CAR WASH SIGN         | 3'-0" x 3'-0"                            | 9.0 S.F.      | 1                                | 9.0 S.F.   | NO            | TO BE REMOVED |
| G    | "P.O.S" SIGN                   | 5'-10" x 3'-8"                           | 21.4 S.F.     | 2                                | 42.8 S.F.  | YES           | TO BE REMOVED |
|      |                                | TOTAL EXISTIN                            | G SIGNAGE: 12 | 29.7 S.F.                        |            |               |               |

PROJECT NO. 1741 AS NOTED DRAWN BY: MA/PA 03/10/16

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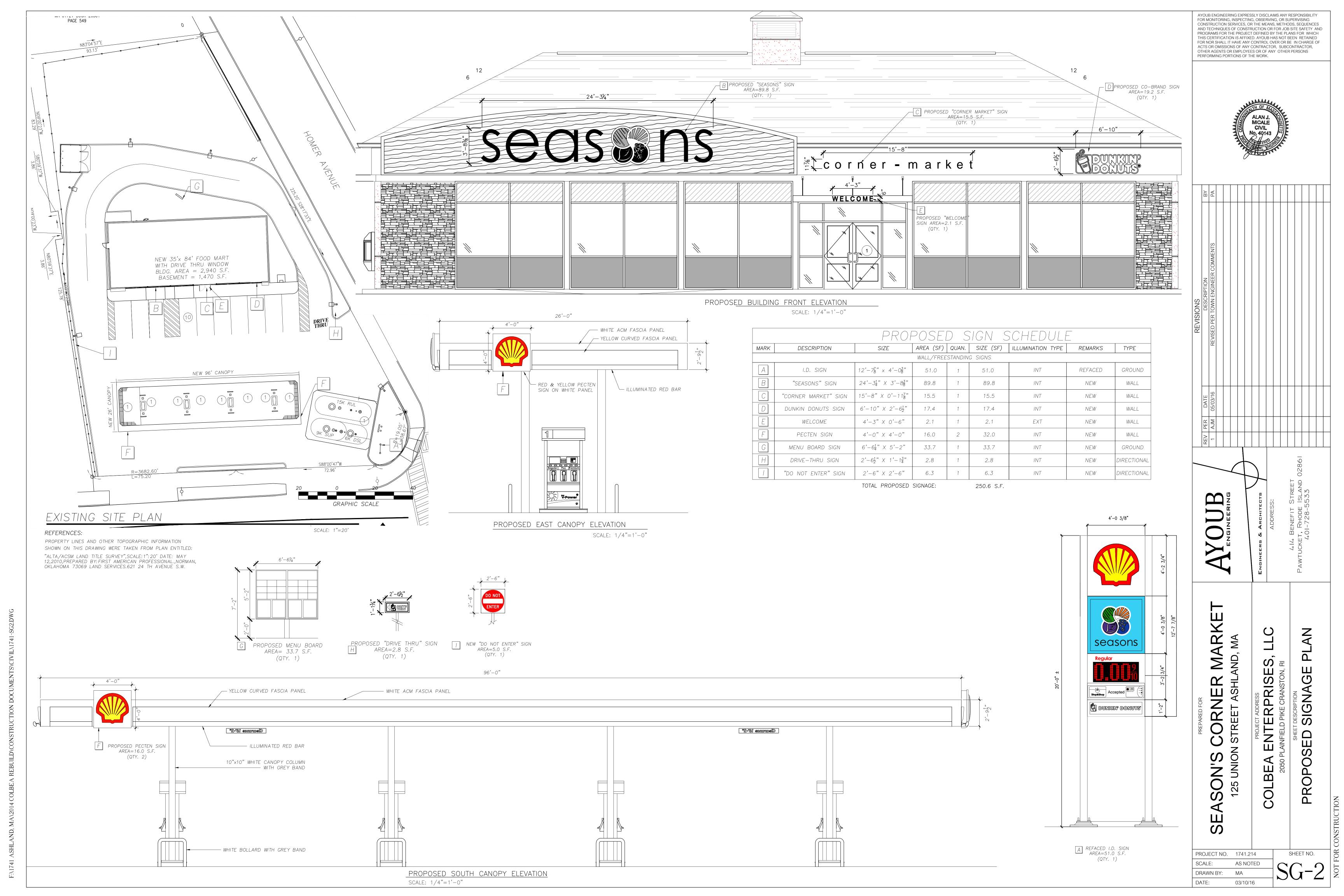
PROGRAMS FOR THE PROJECT DEFINED BY THE PLANS FOR WHICH THIS CERTIFICATION IS AFFIXED. AYOUB HAS NOT BEEN RETAINED FOR NOR SHALL IT HAVE ANY CONTROL OVER OR BE IN CHARGE OF

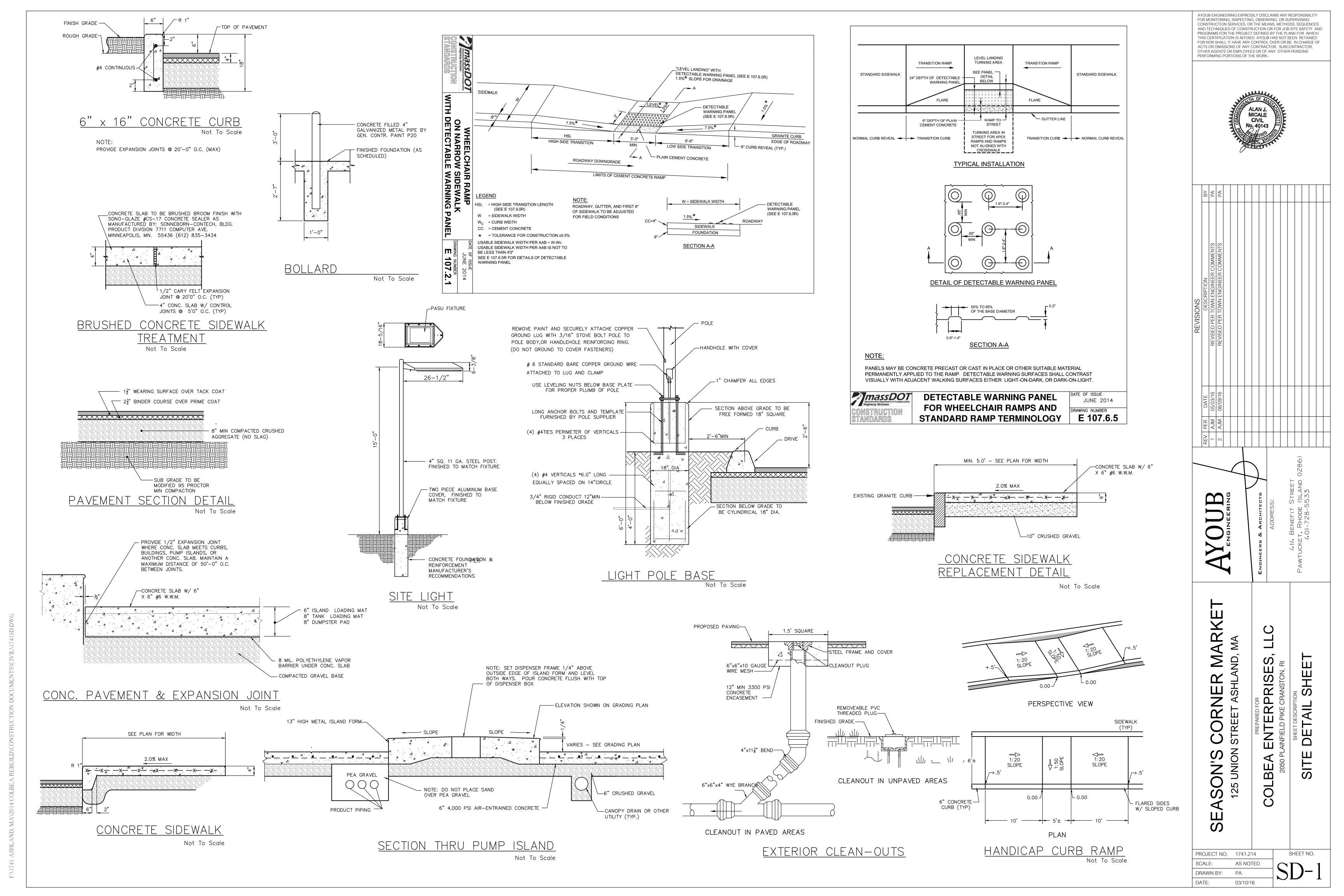
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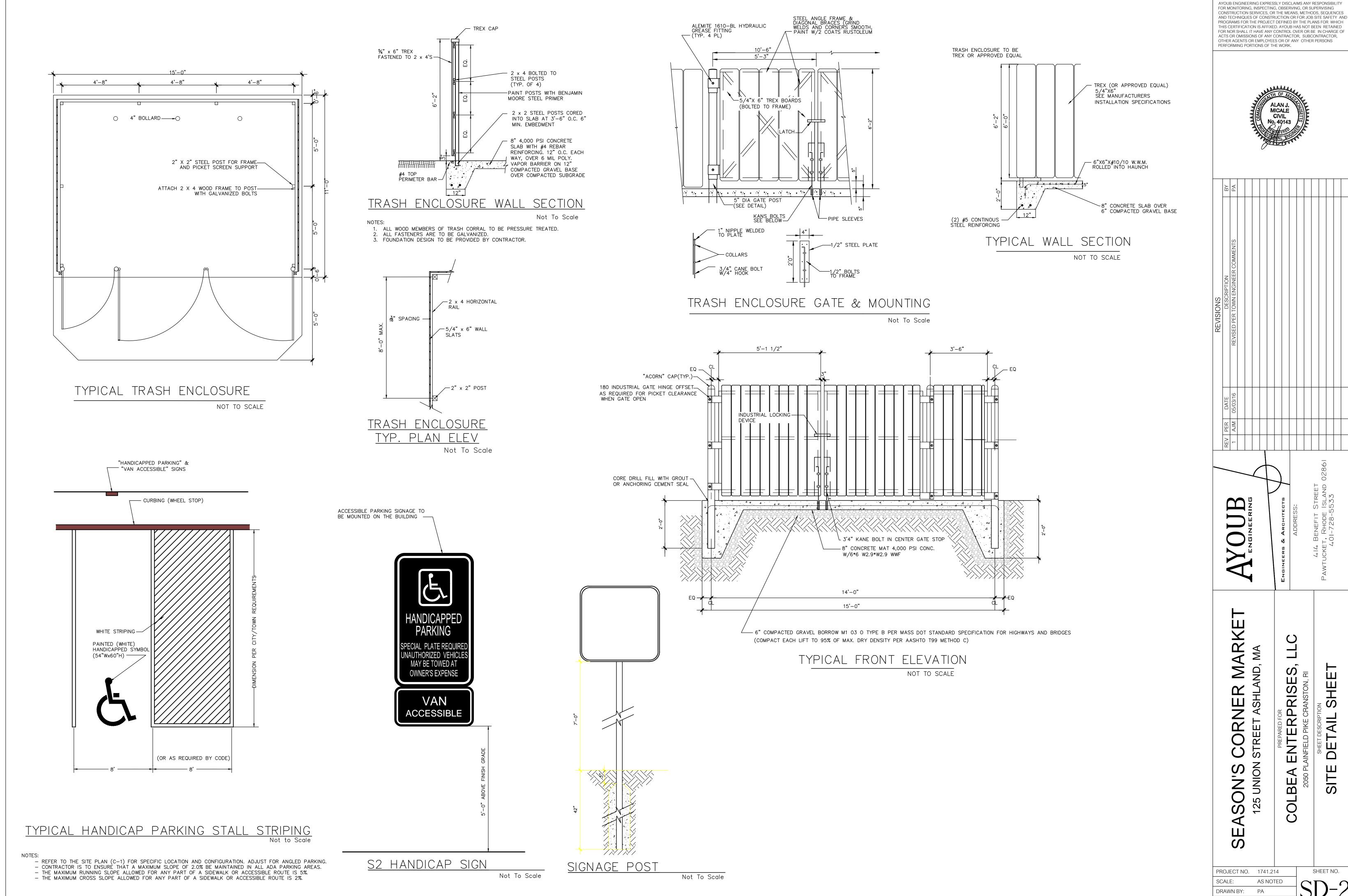
ENTERPRISES,

COLBE,

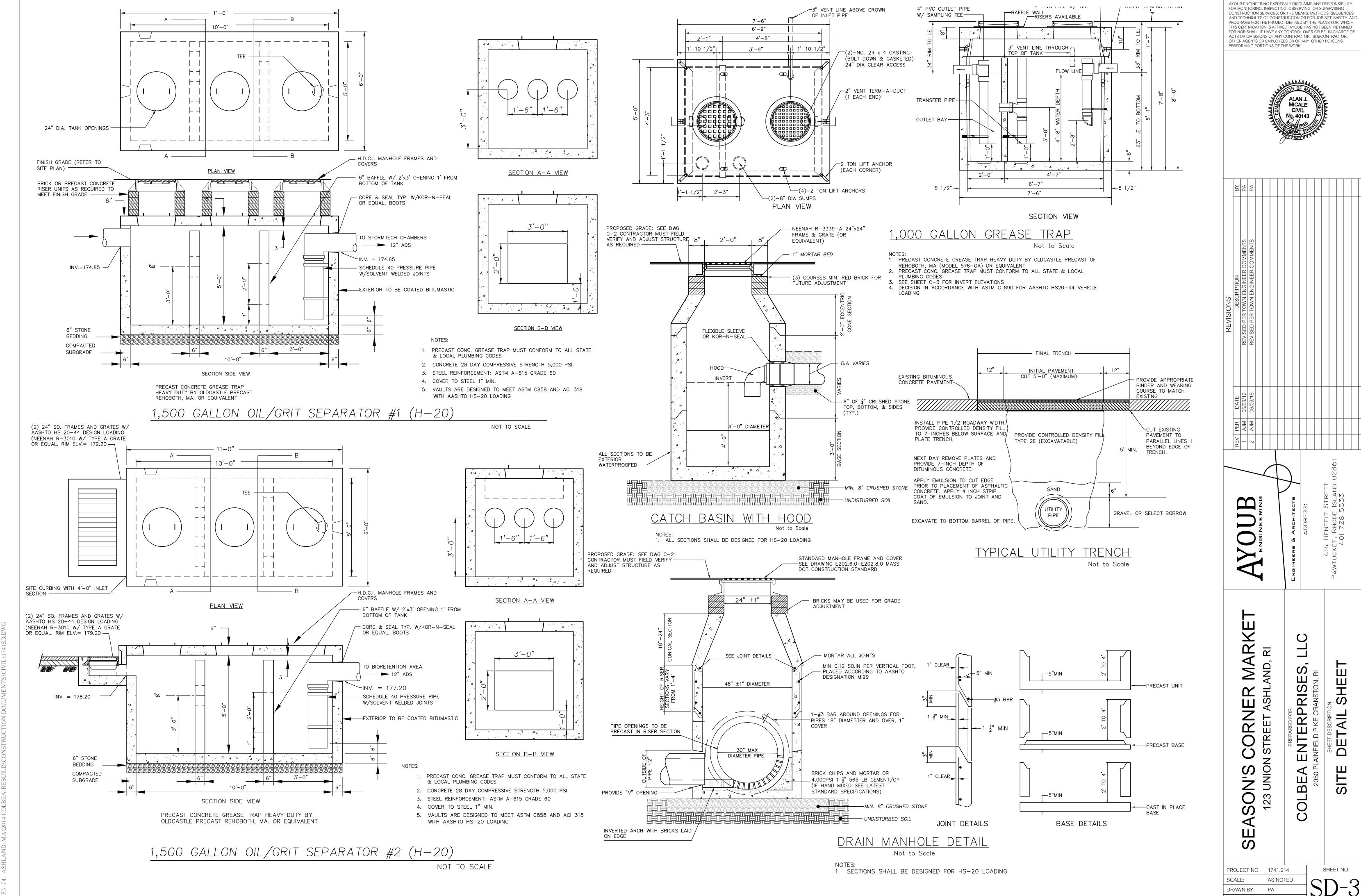
SIGNAGE







AS NOTED 03/10/16



03/10/16

EN1241 ASHI AND MAN2014 COLBEA BEBIII DYCONSTBICTION DOCITAENTSYCHA

DESCRIPTION

ANY SOIL/ROCK MATERIALS, NATIVE SOILS, OR PER ENGINEER'S PLANS. CHECK

PLANS FOR PAVEMENT SUBGRADE REQUIREMENTS.

GRANULAR WELL-GRADED SOIL/AGGREGATE MIXTURES, <35% FINES OR

PROCESSED AGGREGATE.

MOST PAVEMENT SUBBASE MATERIALS CAN BE USED IN LIEU OF THIS LAYER.

CLEAN, CRUSHED, ANGULAR STONE, NOMINAL SIZE DISTRIBUTION BETWEEN 3/4-2

CLEAN, CRUSHED, ANGULAR STONE, NOMINAL SIZE DISTRIBUTION BETWEEN 3/4-2

SUBGRADE SOILS

SC-310 CHAMBER

CATCH BASIN OR MANHOLE

**SC-310 INSPECTION PORT DETAIL** 

INCH (20-50 mm)

1. THE LISTED AASHTO DESIGNATIONS ARE FOR GRADATIONS ONLY. THE STONE MUST ALSO BE CLEAN, CRUSHED, ANGULAR. FOR EXAMPLE, A SPECIFICATION FOR #4 STONE WOULD STATE: "CLEAN, CRUSHED,

2. STORMTECH COMPACTION REQUIREMENTS ARE MET FOR 'A' LOCATION MATERIALS WHEN PLACED AND COMPACTED IN 6" (150 mm) (MAX) LIFTS USING TWO FULL COVERAGES WITH A VIBRATORY COMPACTOR. WHERE INFILTRATION SURFACES MAY BE COMPROMISED BY COMPACTION, FOR STANDARD DESIGN LOAD CONDITIONS, A FLAT SURFACE MAY BE ACHIEVED BY RAKING OR DRAGGING WITHOUT COMPACTION

STORMTECH SC-310 CHAMBER DETAIL

COVER ENTIRE ISOLATOR ROW WITH ADS

5' (1.5 m) MIN WIDE

M2" (300 mm) HDPE ACCESS PIPE REQUIRED

USE FACTORY PRE-FABRICATED END CAP

PART #: SC310EPE12B

CONCRETE COLLAR

COVER OR GRATE

PART# 2712AG10N

GRATE: 1299CGS

SC-310 CHAMBER

HDPE PIPE

SOLID COVER: 1299CGC

10" (250 mm) ADS N-12

-12" (300 mm) NYLOPLAST INLINE

DRAIN BODY W/SOLID HINGED

**GEOSYNTHETICS 601T NON-WOVEN GEOTEXTILE** 

TO BOTTON OF EVEX BY BY EVEX A STREET WETALDA TOND WHERE RUTTING TROMOVED IN THE SAME STORY

VII OCOLIF LUBRITASSI GOVERTO ZAVIRO CONTILISIONI

STORMTECH SC-740 CHAMBERS (RATED FOR H-20 LOADING) FOR INFILTRATION SYSTEM CONFIGURATION SEE SITE PLAN

SC-310 ISOLATOR ROW DETAIL

**INSPECTION & MAINTENANCE** 

INSPECTION PORTS (IF PRESENT)

ON MAINTENANCE LOG

B. ALL ISOLATOR ROWS

STFP 3.

STEP 1) INSPECT ISOLATOR ROW FOR SEDIMENT

A.1. REMOVE/OPEN LID ON NYLOPLAST INLINE DRAIN A.2. REMOVE AND CLEAN FLEXSTORM FILTER IF INSTALLED

A.3. USING A FLASHLIGHT AND STADIA ROD, MEASURE DEPTH OF SEDIMENT AND RECORD

A.5. IF SEDIMENT IS AT, OR ABOVE, 3" (80 mm) PROCEED TO STEP 2. IF NOT, PROCEED TO

B.2. USING A FLASHLIGHT, INSPECT DOWN THE ISOLATOR ROW THROUGH OUTLET PIPE

MIRRORS ON POLES OR CAMERAS MAY BE USED TO AVOID A CONFINED SPACE ii) FOLLOW OSHA REGULATIONS FOR CONFINED SPACE ENTRY IF ENTERING MANHOLE

B.3. IF SEDIMENT IS AT, OR ABOVE, 3" (80 mm) PROCEED TO STEP 2. IF NOT, PROCEED TO

A.4. LOWER A CAMERA INTO ISOLATOR ROW FOR VISUAL INSPECTION OF SEDIMENT

B.1. REMOVE COVER FROM STRUCTURE AT UPSTREAM END OF ISOLATOR ROW

MATERIAL LOCATION

FINAL FILL: FILL MATERIAL FOR LAYER 'D' STARTS FROM THE TOP

INITIAL FILL: FILL MATERIAL FOR LAYER 'C' STARTS FROM THE TOP

THE TOP OF THE CHAMBER. NOTE THAT PAVEMENT SUBBASE MAY

EMBEDMENT STONE: FILL SURROUNDING THE CHAMBERS FROM

EQUIPMENT. FOR SPECIAL LOAD DESIGNS, CONTACT STORMTECH FOR COMPACTION REQUIREMENTS.

**END CAP** 

THE FOUNDATION STONE ('A' LAYER) TO THE 'C' LAYER ABOVE.

OUNDATION STONE: FILL BELOW CHAMBERS FROM THE

SUBGRADE UP TO THE FOOT (BOTTOM) OF THE CHAMBER.

OF THE EMBEDMENT STONE ('B' LAYER) TO 18" (450 mm) ABOVE

OF THE 'C' LAYER TO THE BOTTOM OF FLEXIBLE PAVEMENT OR

UNPAVED FINISHED GRADE ABOVE. NOTE THAT PAVEMENT

SUBBASE MAY BE PART OF THE 'D' LAYER

BE A PART OF THE 'C' LAYER.

ANGULAR NO. 4 (AASHTO M43) STONE"

ADS GEOSYNTHETICS 601T NON-WOVEN

STORMTECH HIGHLY RECOMMENDS-

STRUCTURES WITH OPEN GRATES

FLEXSTORM PURE INSERTS IN ANY UPSTREAM

**PAVEMENT** 

FLEXSTORM CATOLINE

WITH USE OF OPEN GRATE

10" (250 mm) INSERTA TE

INSERTA TEE TO BE CENTERED ON CORRUGATION CREST

PART# 6212NYF)

PART#10N12ST31IP

ANGULAR STONE IN A & B LAYERS

PERIMETER STONE

EXCAVATION WALL

(SEE NOTE 6)

12" (300 mm) MIN

GEOTEXTILE ALL AROUND CLEAN CRUSHED,

AASHTO MATERIAL

CLASSIFICATIONS

AASHTO M1451

A-1, A-2-4, A-3

AASHTO M431

3, 357, 4, 467, 5, 56, 57, 6, 67, 68, 7, 78, 8, 89, 9, 10

AASHTO M431

AASHTO M431

3, 357, 4, 467, 5, 56, 57

PAVEMENT LAYER (DESIGNED

(405 mm)

6" (150 mm)

MIN

18"

DEPTH OF STONE TO BE

BY DESIGN ENGINEER 6" (150

DETERMINED

mm) MIN

(450 mm) MIN\* MAX

BY SITE DESIGN ENGINEER)

3, 357, 4, 467, 5, 56, 57

1. SC-310 CHAMBERS SHALL CONFORM TO THE REQUIREMENTS OF ASTM F2418

PRACTICE FOR STRUCTURAL DESIGN OF THERMOPLASTIC CORRUGATED WALL

DESIGN AND LAYOUT OF THE STORMTECH CHAMBERS FOR THIS PROJECT.

FOR BOTH VERTICAL AND SLOPED EXCAVATION WALLS.

**✓OPTIONAL INSPECTION PORT** 

TWO LAYERS OF ADS GEOSYNTHETICS 315WTK WOVEN

GEOTEXTILE BETWEEN FOUNDATION STONE AND CHAMBERS

C. VACUUM STRUCTURE SUMP AS REQUIRED

ACCUMULATION AND HIGH WATER ELEVATIONS.

MAINTENANCE IS NECESSARY

**INSPECTION & MAINTENANCE (CONTINUED)** 

STEP 2) CLEAN OUT ISOLATOR ROW USING THE JETVAC PROCESS

A. A FIXED CULVERT CLEANING NOZZLE WITH REAR FACING SPREAD OF 45" (1.1 m) OR

STEP 3) REPLACE ALL COVERS, GRATES, FILTERS, AND LIDS; RECORD OBSERVATIONS

STEP 4) INSPECT AND CLEAN BASINS AND MANHOLES UPSTREAM OF THE STORMTECH

INSPECT EVERY 6 MONTHS DURING THE FIRST YEAR OF OPERATION. ADJUST THE

2. CONDUCT JETTING AND VACTORING ANNUALLY OR WHEN INSPECTION SHOWS THAT

INSPECTION INTERVAL BASED ON PREVIOUS OBSERVATIONS OF SEDIMENT

B. APPLY MULTIPLE PASSES OF JETVAC UNTIL BACKFLUSH WATER IS CLEAN

4' (1.2 m) MIN WIDE CONTINUOUS FABRIC WITHOUT SEAMS

COLLECTION CHAMBERS", OR ASTM F2922

STORMWATER COLLECTION CHAMBERS".

EMBEDMENT, AND FILL MATERIALS.

COLLECTION CHAMBERS"

"STANDARD SPECIFICATION FOR POLYPROPYLENE (PP) CORRUGATED WALL STORMWATER

"STANDARD SPECIFICATION FOR POLYETHYLENE (PE) CORRUGATED WALL STORMWATER

"ACCEPTABLE FILL MATERIALS" TABLE ABOVE PROVIDES MATERIAL LOCATIONS, DESCRIPTIONS, GRADATIONS, AND COMPACTION REQUIREMENTS FOR FOUNDATION,

4. THE "SITE DESIGN ENGINEER" REFERS TO THE ENGINEER RESPONSIBLE FOR THE

THE SITE DESIGN ENGINEER IS RESPONSIBLE FOR ASSESSING THE BEARING

RESISTANCE (ALLOWABLE BEARING CAPACITY) OF THE SUBGRADE SOILS AND THE DEPTH OF

PERIMETER STONE MUST BE EXTENDED HORIZONTALLY TO THE EXCAVATION WALL

SC-310 END CAP

7. ONCE LAYER 'C' IS PLACED, ANY SOIL/MATERIAL CAN BE PLACED IN LAYER 'D' UP TO THE FINISHED GRADE. MOST PAVEMENT SUBBASE SOILS CAN BE USED TO REPLACE THE MATERIAL REQUIREMENTS OF LAYER 'C' OR 'D' AT THE SITE DESIGN ENGINEER'S DISCRETION.

FOUNDATION STONE WITH CONSIDERATION FOR THE RANGE OF EXPECTED SOIL MOISTURE

SC-310 CHAMBERS SHALL BE DESIGNED IN ACCORDANCE WITH ASTM F2787 "STANDARD

COMPACTION / DENSITY REQUIREMENT

PREPARE PER SITE DESIGN ENGINEER'S PLANS. PAVED

INSTALLATIONS MAY HAVE STRINGENT MATERIAL AND

PREPARATION REQUIREMENTS.

BEGIN COMPACTIONS AFTER 12" (300 mm) OF MATERIAL OVER THE

CHAMBERS IS REACHED. COMPACT ADDITIONAL LAYERS IN 6" (150

mm) MAX LIFTS TO A MIN. 95% PROCTOR DENSITY FOR WELL

GRADED MATERIAL AND 95% RELATIVE DENSITY FOR PROCESSED

AGGREGATE MATERIALS. ROLLER GROSS VEHICLE WEIGHT NOT

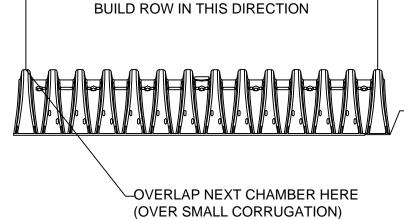
TO EXCEED 12,000 lbs (53 kN). DYNAMIC FORCE NOT TO EXCEED

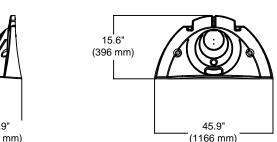
NO COMPACTION REQUIRED.

PLATE COMPACT OR ROLL TO ACHIEVE A FLAT SURFACE. 23

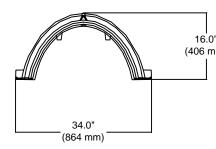
(2.4 m)

Not to Scale





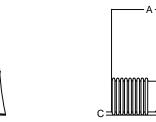




SIZE (W X H X INSTALLED LENGTH)

34.0" X 16.0" X 85.4"

(864 mm X 406 mm X 2169 mm)  $(0.42 \text{ m}^3)$ (0.88 m<sup>3</sup>) (16.8 kg)



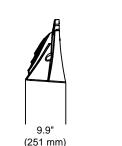


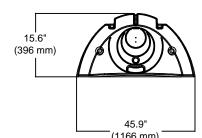
STURS AT TOD OF END CAD FOR DART NUMBERS ENDING WITH "T

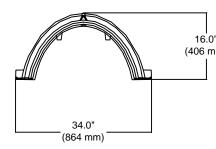
\* FOR THE SC310EPE12B THE 12" (300 mm) STUB LIES BELOW THE BOTTOM OF THE END CAP APPROXIMATELY 0.25" (6 mm). BACKFILL MATERIAL SHOULD BE REMOVED FROM BELOW THE N-12 STUB SO THAT THE FITTING SITS LEVEL.

-----90.7" (2304 mm) ACTUAL LENGTH ------

ACCEPTS 4" (100 mm) SCH 40 PVC PIPE FOR INSPECTION PORT. FOR PIPE SIZES LARGER THAN 4" (100 mm) UP TO 10" (250 mm) USE INSERTA TEE CONNECTION CENTERED ON A CHAMBER CREST CORRUGATION





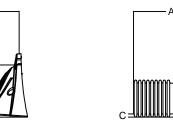


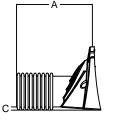
NOMINAL CHAMBER SPECIFICATIONS

CHAMBER STORAGE MINIMUM INSTALLED STORAGE\* WEIGHT

14.7 CUBIC FEET 31.0 CUBIC FEET 35.0 lbs.

\*ASSUMES 6" (152 mm) ABOVE, BELOW, AND BETWEEN CHAMBERS





STUBS AT BOTTOM OF END CAP FOR PART NUMBERS ENDING WITH "B"

| STUBS AT TOP OF END CAP FOR PART | NUMBERS ENDING | WITH "T"         |               |              |
|----------------------------------|----------------|------------------|---------------|--------------|
| PART #                           | STUB           | Α                | В             | С            |
| SC310EPE06T / SC310EPE06TPC      | 6" (150 mm)    | 9.6" (244 mm)    | 5.8" (147 mm) |              |
| SC310EPE06B / SC310EPE06BPC      | 0 (130 11111)  | 9.0 (244 11111)  |               | 0.5" (13 mm) |
| SC310EPE08T / SC310EPE08TPC      | 8" (200 mm)    | 11.9" (302 mm)   | 3.5" (89 mm)  |              |
| SC310EPE08B / SC310EPE08BPC      | 0 (200 11111)  | 11.9 (302 11111) |               | 0.6" (15 mm) |
| SC310EPE10T / SC310EPE10TPC      | 10" (250 mm)   | 12.7" (323 mm)   | 1.4" (36 mm)  |              |
| SC310EPE10B / SC310EPE10BPC      | 10 (23011111)  | 12.7 (323 11111) |               | 0.7" (18 mm) |
| SC310EPE12B                      | 12" (300 mm)   | 13.5" (343 mm)   |               | 0.9" (23 mm) |

ALL STUBS, EXCEPT FOR THE SC310EPE12B ARE PLACED AT BOTTOM OF END CAP SUCH THAT THE OUTSIDE DIAMETER OF THE STUB IS FLUSH WITH THE BOTTOM OF THE END CAP. FOR ADDITIONAL INFORMATION CONTACT STORMTECH AT 1-888-892-2694.

NOTE: ALL DIMENSIONS ARE NOMINAL

## S PRISI BE

SHEET NO.

PROJECT NO. 1741.214

AS NOTED

03/10/16

SCALE:

DATE:

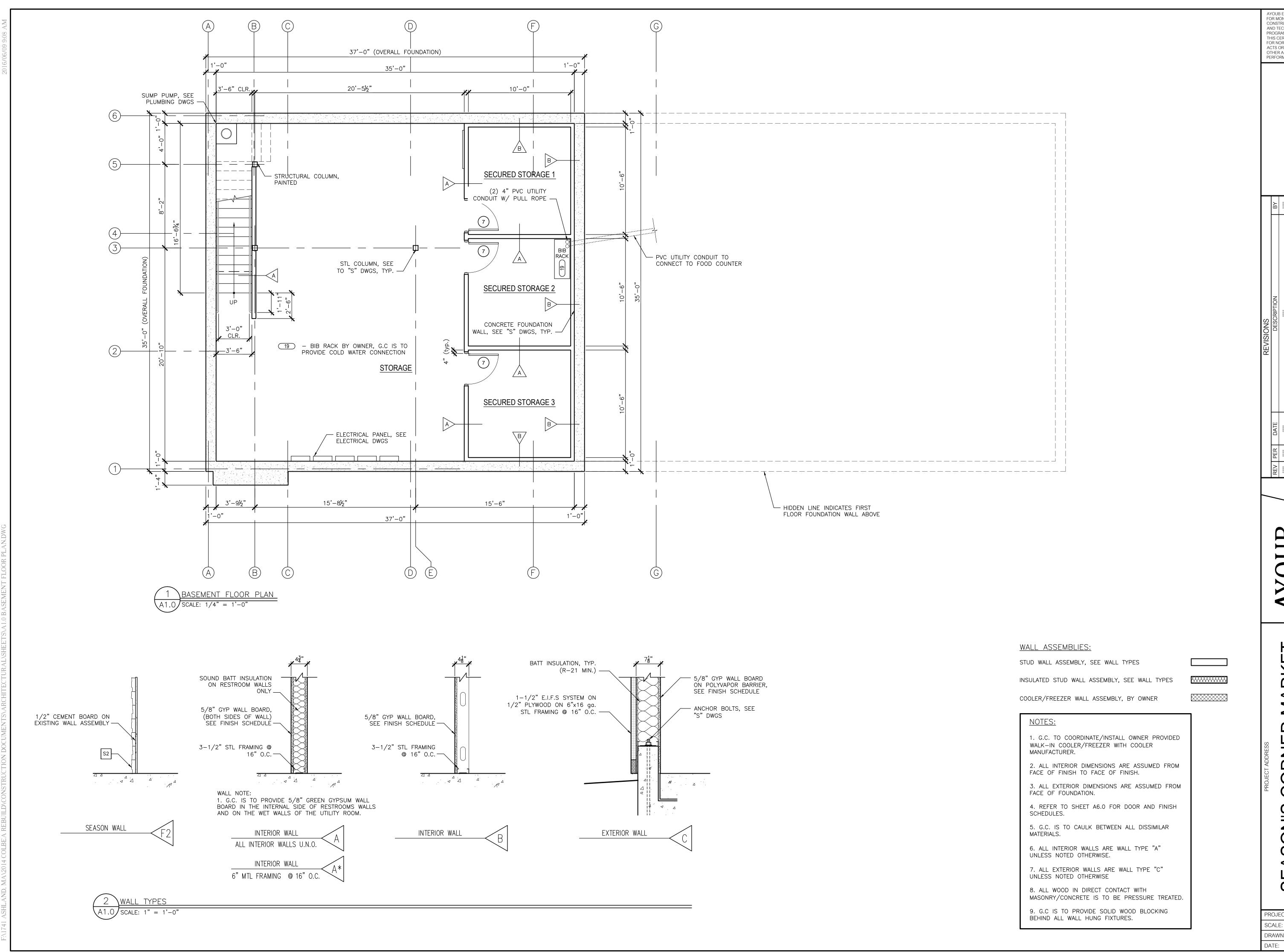
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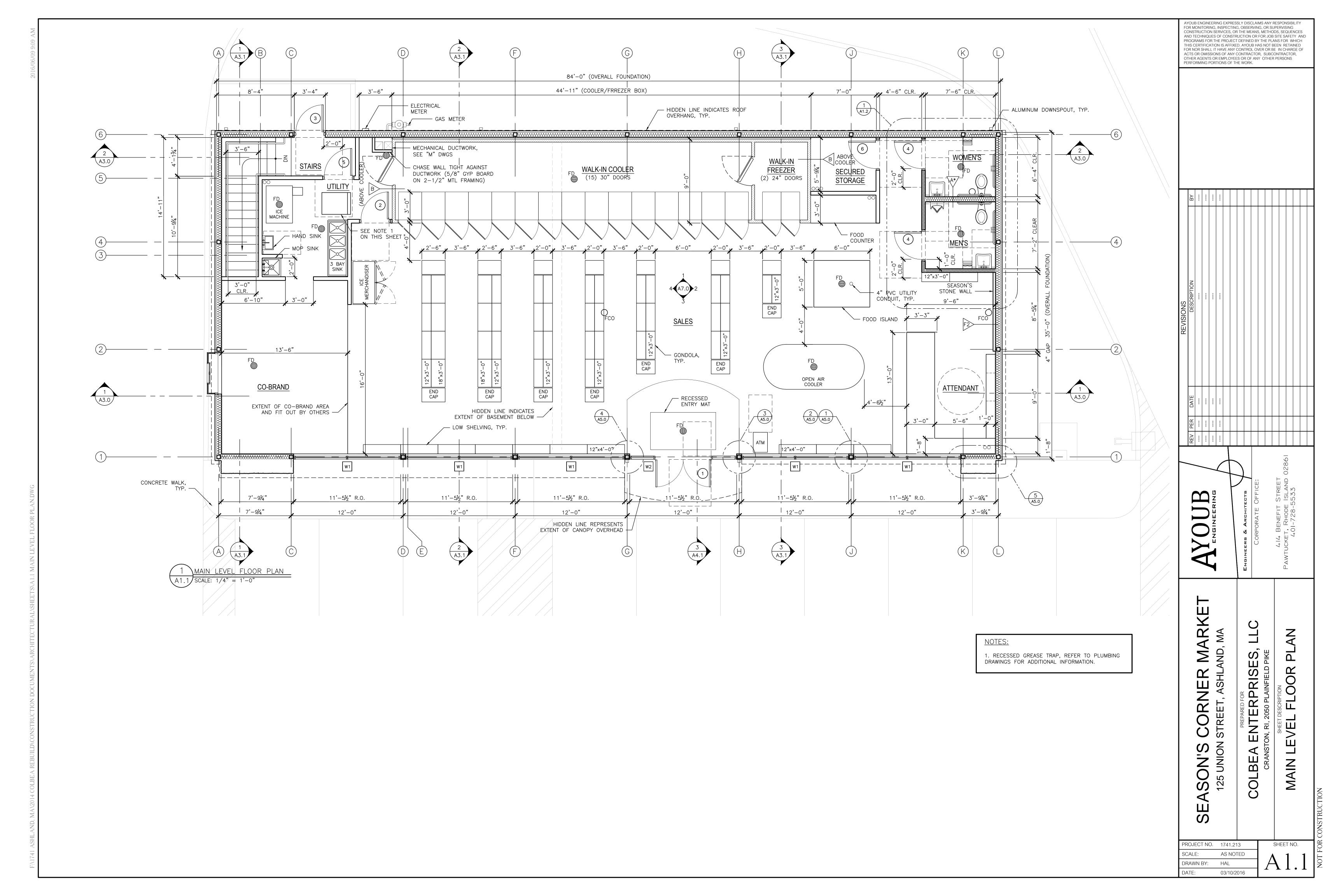
SEASON'S CORNER MARK
125 UNION STREET, ASHLAND, MA
PREPARED FOR
COLBEA ENTERPRISES, LLC
CRANSTON, RI. 2050 PLAINFIELD PIKE

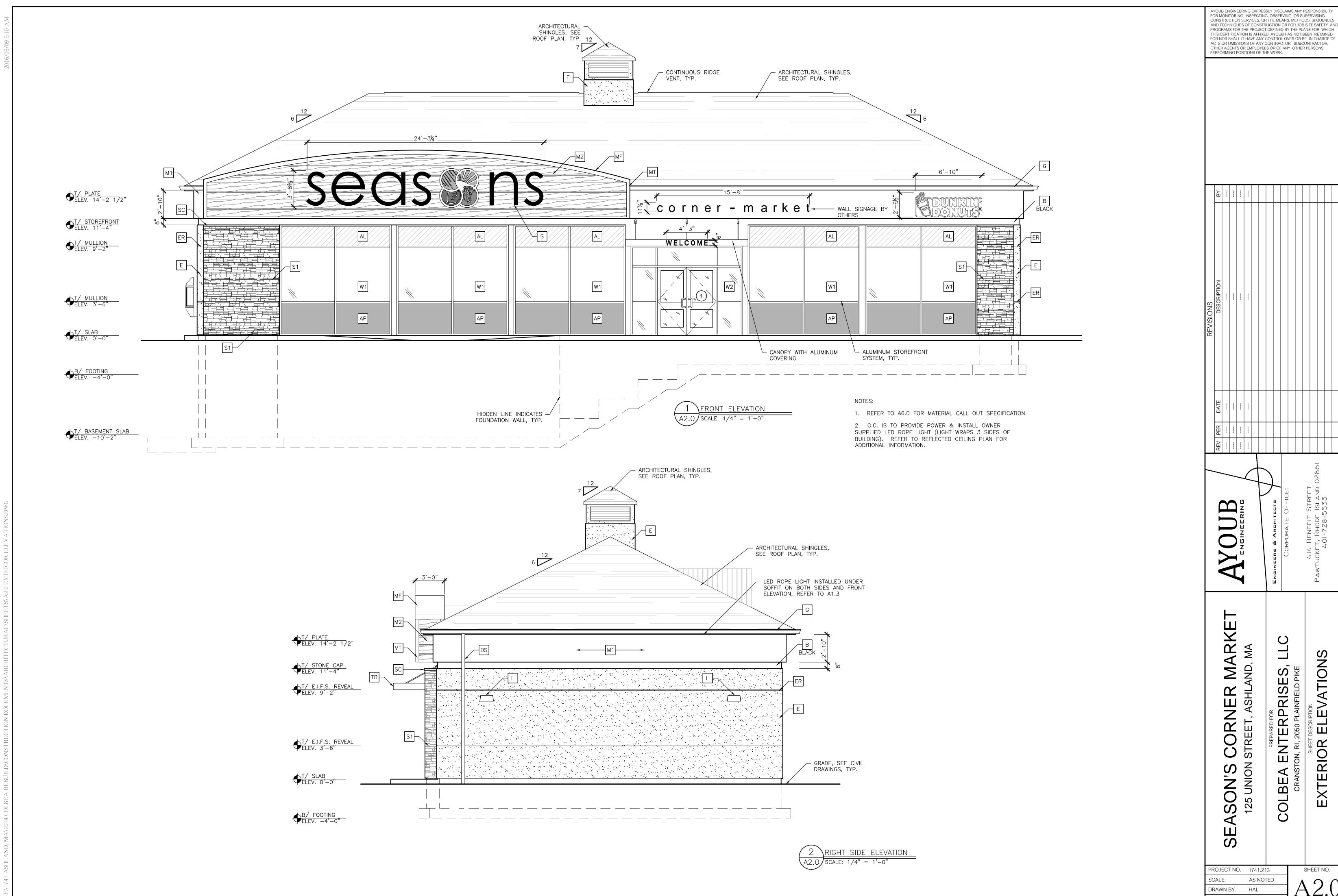
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AS NOTED HAL 03/10/2016

