



ALLEN ENGINEERING  
& ASSOCIATES, INC.

Civil Engineers, Surveyors &  
Land Development Consultants

**ADDRESS**

One Charlesview Road,  
Suite 2  
Hopedale, MA 01747

**PHONE**

(508) 381-3212

**WEB SITE**

[www.allen-ea.com](http://www.allen-ea.com)

November 12, 2021

Town of Leicester Planning Board  
3 Washburn Square  
Leicester, MA 01524-1333

Re: #1603 - #1605 Main Street  
AEA Project 00047

Dear Members of the Board:

Allen Engineering & Associates, Inc. (AEA) hereby submits the following narrative in compliance with Site Plan Review Regulation II.E.2.

Reference – Leicester Zoning By-Laws §5.2.05 Standards for Site Plan Approval

- A. The use complies with all the provisions of the Leicester Zoning By-Law;
  - *The proposed uses of a retail store and restaurant are permitted by right in the HB-1 zone. The proposed uses of gasoline station, drive-through facility and rental enclosed self-storage facility are permitted after an issuance of a special permit by the Planning Board.*
- B. The use will not materially endanger or constitute a hazard to the public health and safety;
  - *The project proponent has submitted an Environmental Notification Form (ENF) which has been reviewed with respect to public health and safety and has been issued a certificate by the Secretary of Energy and Environmental Affairs.*
- C. The use will not create undue traffic congestion or unduly impair pedestrian safety;
  - *The project is under review by the Massachusetts Department of Transportation. In consultation with MassDOT the project proponent has committed to construct a buffered bicycle lane within Main Street as well as providing a permanent highway easement to enable sidewalk installation in the future. This will dramatically enhance pedestrian safety in the area.*
- D. Sufficient off-street parking exists or will be provided to serve the use;
  - *The project parking exceeds the number of spaces required by the Zoning By-Law.*

- E. The use can be adequately served by water, sewer, and other necessary utilities, or if these are un-available, that they will be brought to the site at the owner's expense; or, the Planning Board is satisfied that the proposed alternatives will comply with all applicable regulations; and,
  - *The use will be adequately served by water, sewer, and other necessary utilities. A letter from the Leicester Water District has been submitted previously.*
- F. The use will not result in a substantial increase of volume or rate of surface water runoff to neighboring properties and streets, nor will result in pollution or degradation to surface water or groundwater;
  - *The Drainage Analysis Report demonstrates compliance with this requirement.*
- G. The use will not result in any undue disturbance to adjoining property owners or the Town caused by excessive or unreasonable noise, smoke, vapors, fumes, dust, glare, etc.
  - *As stated in item B above, the proposed use has been reviewed in this respect and a certificate has been issued by the Secretary of Energy and Environmental Affairs.*

Thank you for your attention to these matters, if additional information is required or if you have a question regarding this correspondence, please contact me at (508) 381-3212 x105 or by email at [mark@allen-ea.com](mailto:mark@allen-ea.com).

Sincerely,  
ALLEN ENGINEERING  
& ASSOCIATES, INC.



Mark E. Allen, PE  
President

cc: Jean Skaff



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November 12, 2021

Town of Leicester Planning Board  
3 Washburn Square  
Leicester, MA 01524-1333

Re: #1603 - #1605 Main Street

Dear Members of the Board:

Allen Engineering & Associates, Inc. (AEA) has received a peer review letter from Quinn Engineering, Inc. dated October 25, 2021 related to the site plan application for the above referenced property. Below please find the original comments along with our (AEA) responses.

1. The Applicant must confirm that the building, including the fascia, will conform to the setback requirements. (§4.2)  
*AEA- Building locations, including the fascia will conform to the setback requirements setbacks.*
2. A designated loading space is not proposed at #1605 Main Street. The Applicant must identify how deliveries will be made and why a loading space is not required. (§5.1.01, LPR IV.H)  
*AEA- Business owners typically arrange deliveries during off-peak hours. The parking to be provided at #1605 exceeds the required amount by seven parking spaces which is equivalent to 1,400 square feet. If needed, the owner could temporarily reserve a 20' x 70' area for deliveries without impacting the required parking.*
3. §5.5.02.1.C recommends only one curb cut per lot, however, it is understood that the second, easterly curb cut was encouraged by MA DOT. The two curb cuts are proposed in a similar configuration that had been previously approved.  
*AEA- Defer to the Board. §5.5.02.1.C additionally states "No more than two (2) curb cuts shall be permitted per lot".*
4. Parking is required to the side or rear of the structure to the maximum extend feasible. The Applicant must demonstrate why parking cannot be located behind the building proposed at #1603 Main Street. (§5.5.02.1.A.4)  
*AEA- There is not sufficient width to place the parking on either side of the building. The main building entrance, which contains the buildings handicap accessible elevators, faces the street as is typical for most businesses. Placing parking behind the building would conflict with the intent of the Americans with Disabilities Act to provide the shortest accessible route.*

5. The submitted photometric plan identifies light spillage over 1 foot-candle on the adjacent property. The Applicant must demonstrate that lighting does not shine beyond the property lines. (§5.5.02.1.A.7 and LPR IV.G)  
AEA- *A wooded area near the entrance/new traffic light installation approximately 125 feet from the existing building is shown to have a small area of over 1 foot-candle due to the proximity of the light that illuminates the project entrance. AEA defers to the Board as the cited regulations do not provide a maximum foot-candle measurement.*
6. On the proposed plan, patrons parking in the northernmost spaces on #1603 Main Street must walk between other parking spaces and cross the landscaped island to access the proposed building. A walkway is recommended to provide access through the middle rows of parking and landscaped island. (§5.5.02.1.A.8, LPR IV.F, LR IV.C)  
AEA- *Two five-foot wide walkways added.*
7. Doors at the proposed drive through windows will force pedestrians to walk across/along the drive through lanes. The Applicant should consider providing alternative door locations. (§5.5.02.1.A.8, LPR IV.F, LR IV.C)  
AEA- *Doors at the proposed drive through windows are for employee access only.*
8. Calculations have been provided to confirm that the proposed landscaping meets the 5% area requirement listed in §5.5.02.2.I. This office defers to the Board on the location and type of landscaping to be provided.  
AEA- *Defer to the Board.*
9. The waiver requested from §5.5.02.2.B specifies a buffer width of 48.4 feet. The Applicant should also reference the minimum buffer width proposed in the waiver request.  
AEA- *A second dimension of 22.4 feet has been added to the plan.*
10. Parking is proposed on the western side of the property within the area that would typically be designated as a landscape buffer. This office defers to the Board if a waiver from §5.5.02.2.H should be included in the waiver requests. Parking was not in this location on the previously approved plan.  
AEA- *As noted in item 9, an additional dimension of 22.4 feet has been shown to clarify the width of the proposed buffer at the parking area (22.4' – 48.4'). Under §5.5.02.2.B "A landscaped buffer 50 feet shall be provided where a non-residential use abuts a residential use." However, §5.5.02.2.D states that the Planning Board has sole discretion to reduce the required buffer to 20 feet if an opaque fence and/or other comparable method is provided to adequately buffer the abutting residential use. Therefore, if the Board finds that the fence and buffer, as proposed, are adequate to buffer the abutting residential use the parking would not be within a required buffer and a waiver would not be necessary.*
11. The narrative provided by Allen Engineering & Associates, Inc. identifies that the hours of operation for the building proposed at #1605 Main Street are from 5 AM to 12 PM. The Applicant should confirm the expected closing time. (SPRR II.E.1.a)  
AEA- *Expected closing time is 12 o'clock midnight.*



12. The Board may wish that the submitted narrative specifically identify how each point in Section 5.2.05 are met. (SPRR II.E.2)

AEA- *An additional narrative meeting this requirement is enclosed.*

13. This office defers to the LWSD regarding the sewer and water service configurations. (SPRR II.E.I)

AEA- *Response not required.*

14. The Applicant should identify the proposed development schedule. (SPRR II.E.4)

AEA- *The proponent anticipates having all necessary approvals by the spring of 2022. Construction on building #1605 Main Street along with the state highway improvements will begin immediately and is expected to be completed early summer of 2023. The building at #1603 Main Street is expected to be constructed within two years of the completion of building #1605. Or approximately the summer of 2025.*

15. Colors of the building proposed at #1603 Main Street must be provided. Also, the Board may request that color renderings of the proposed buildings be submitted. (SPRR II.F)

AEA- *The colors will match the building at #1605 – gray wall panels with red accent fascia trim. A color rendering of a typical building similar to #1605 will be presented to the Board at the upcoming meeting.*

16. The locus plan provided does not meet some of the requirements specified in SPRR II.G.

AEA- *Defer to the Board.*

17. Landscape buffers must be a mixture of trees, shrubs, ground covers. Alternatively, the Board may allow the use of opaque screening (ie. a fence) in lieu of landscaping. The proposed landscaping around the perimeter of the property varies from that which was previously approved. This office defers to the Board regarding the location and type of the proposed landscaping.

AEA- *Defer to the Board.*

18. The dimensions of the rip rap aprons must be provided. Calculations supporting the dimensions should also be provided. (MA DEP Standard 1)

AEA- *Rip rap detail added to sheet 10.*

19. The drainage analysis identifies an increase in runoff rates to the adjacent property at the southeasterly design point. The increase must be attenuated. (MA DEP Standard 2)

AEA- *Revised drainage analysis enclosed showing no increase to the adjacent property at the southeasterly design point.*

20. Woodbridge soils are classified with a dual hydrologic soil group as C/D. The first letter represents the "drained" condition and the second letter represents the "undrained". Since on site soil testing identified the high groundwater table at greater than 24 inches, the "drained" letter designation (HSG C) should be used. The analysis and other calculations should be updated to reflect HSG C.

AEA- *Revised drainage analysis enclosed utilizing HSG C data.*

21. Catch basins are to be designed as off-line systems. The proposed outlet from DRI should be rerouted to a manhole instead of discharging to CB8. DRI should also be provided with a hood on the outlet to capture oil and floatables. (MA DEP Handbook Vol. 2, Ch. 2, page 3-5)  
*AEA- Due to shallow ledge conditions a sump structure in the area of DR1 is not feasible. DR1 functions as both an inlet and a junction/cleanout for the proposed trench drains. The site plan and calculations have been revised to route this structure to a new sump manhole with trap (DMH7).*
22. For consistency, the time of concentration used in the post-development catchment 1S should be similar to that used in the pre-development catchment 2S.  
*AEA- Time of concentration has been adjusted, revised drainage analysis enclosed.*
23. The traffic report identifies that the property at #1621 Main Street has been granted and access easement in order to access the traffic signal. The Applicant should identify the location of the proposed easement and the Board may wish that a copy of the easement agreement be submitted.  
*AEA- This was an initial alternate discussion, and is no longer proposed.*
24. Work is proposed on the adjacent property at #1621 Main Street and is labeled on plan as "Grading Agreement w/ Abutter". It is recommended that documentation of the agreement/easement to be submitted.  
*AEA- The right of entry and grading easement are required by MassDOT in conjunction with their on-going review of the state highway improvements. When the document becomes available AEA will forward to the Board.*
25. The proposed dumpster location at #1605 Main Street will require a front loading trash truck to drive the wrong way against the traffic flow. The Applicant should clarify the trash removal procedure and, if necessary, consider a dumpster location that doesn't require a trash truck to drive against traffic flow.  
*AEA- Business owners usually schedule trash removal during off-peak hours, however, a rear loading truck could proceed with traffic in the by-pass lane, back up, load and proceed forward with traffic.*
26. Review by the Fire Department of the proposed site access, hydrant location, etc. is recommended.  
*AEA- Defer to the Board.*
27. This office has not reviewed the proposed work in Main Street (Route 9) as it falls under the purview of MA DOT.  
*AEA- Response not required.*
28. There are specific site design requirements at gas pumps (spill storage, bollards, etc.). Those items do not fall under the scope of this review.  
*AEA- Response not required.*
29. This office has not reviewed the proposed sign since the sign permit is issued by the Zoning Board of Appeals.  
*AEA- Response not required.*
30. Labels should be provided on plan for radii, curb type, accessible signs, etc. and dimensions should be provided for aisles, islands, walkways, etc.  
*AEA- Sheet 4 shows granite curb radii and curb type. Accessible signage and additional dimensions are also*

*provided.*

31. Details should be provided for several site related items (ie. guardrails, fences, bollards, retaining wall, curb stops, etc.).

AEA- *Water infrastructure (curb stops, etc.) will be installed in compliance with the Leicester Water Supply District standard details. Guardrail and fence detail added to sheet 10. Retaining wall details will be provided to the building department during building permit application, if required.*

32. A guardrail is recommended on the top of the retaining wall in lieu of a fence. This office's experience has been that wheel stops, like those currently proposed, tend to get damaged over time and are removed. In that case, a guardrail would be a better option along the top of the wall.

AEA- *Recommendation acknowledged.*

33. It appears that the invert and rim elevations listed for CB7 in the drain schedule are mislabeled.

AEA- *Labels have been corrected.*

34. The weir elevation and inlets/outlet elevations must be labeled in the diversion manhole detail.

AEA- *Labels added.*

35. It is recommended that a solid surface be installed across the emergency spillway to provide a consistent spillway elevation and that the rip rap be placed on either side of the solid surface.

AEA- *Revised drainage analysis enclosed, 100-year flood event doesn't exceed emergency spillway elevation.*

36. It is recommended that the emergency spillway elevation be set at elevation 1039 so that stormwater enters the overflow on the outlet structure before flowing over the spillway.


AEA- *Revised drainage analysis enclosed. Outlet structure rim set to 1038.88, emergency spillway elevation adjusted to 1039.2.*

37. "Do Not Enter" signs are recommended where the one-way traffic of the drive through enters two-way traffic parking area.

AEA- *Signs added.*

Thank you for your attention to these matters, if additional information is required or if you have a question regarding this correspondence, please contact me at (508) 381-3212 x105 or by email at [mark@allen-ea.com](mailto:mark@allen-ea.com).

Sincerely,  
ALLEN ENGINEERING  
& ASSOCIATES, INC.



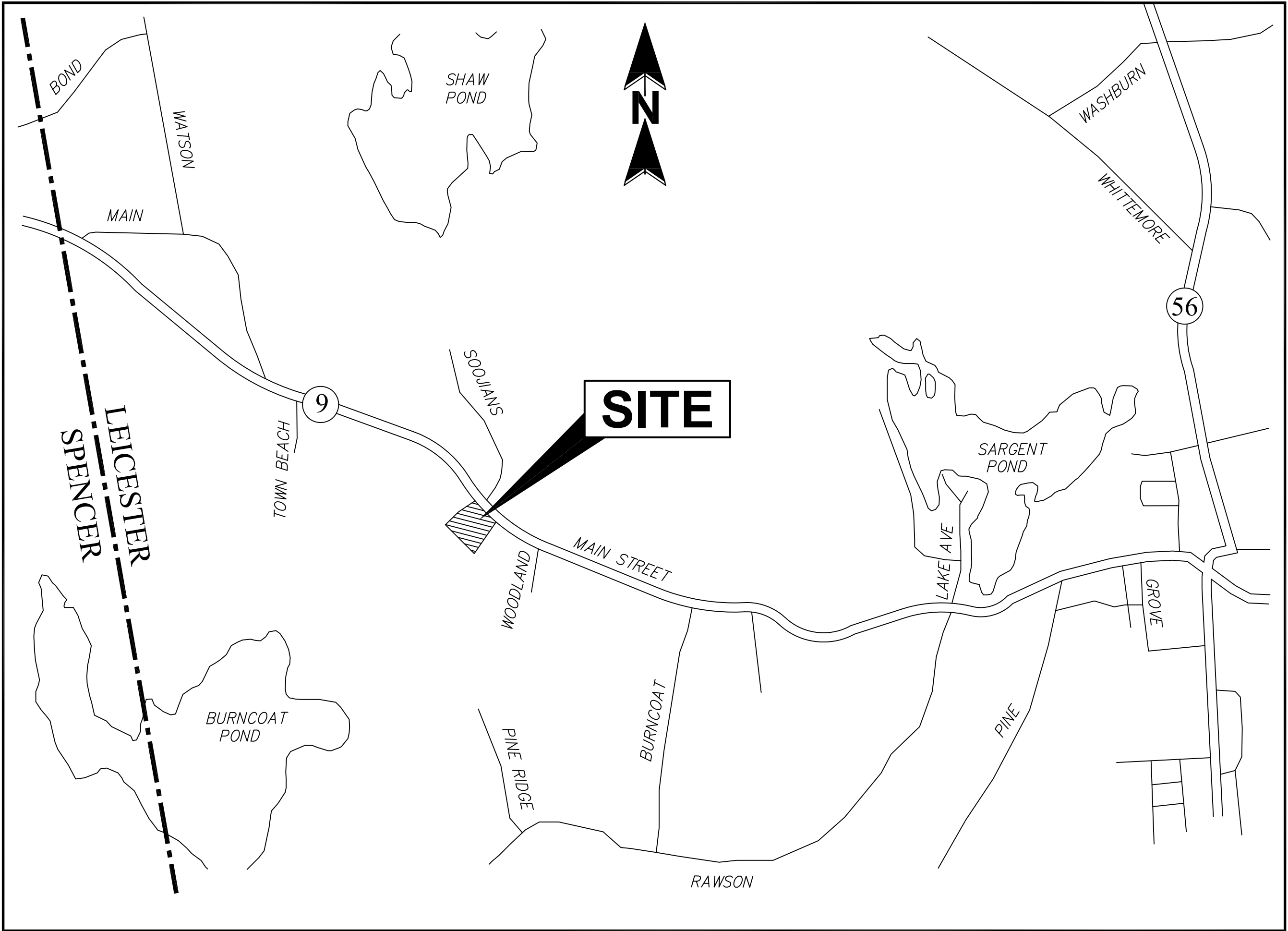
Mark E. Allen, PE  
President

cc: Jean Skaff

Site Development Plan  
at  
#1603 - #1605 Main Street  
Leicester, Massachusetts

Plan Date: September 23, 2021

Revisions			
1	11/12/21	PER COMMENTS	BSW
NO.	DATE	DESCRIPTION	BY



LOCUS MAP

Scale: 1 " = 1,000 ± Feet

Prepared By:

**Architect**  
Bertin Engineering  
66 Glen Avenue,  
Glen Rock, NJ 07452



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& ASSOCIATES, INC.**

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Suite 2

Hopedale, Ma 01747

(508) 381-3212 • Phone  
www.allen-ea.com

**Traffic Consultant**  
Ron Müller & Associates  
56 Teresa Road,  
Hopkinton, MA

APPROVED BY THE LEICESTER PLANNING BOARD

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\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

DATE: \_\_\_\_\_

**Owner**  
Leicester Main, LLC  
One Charlesview Road, Suite 1  
Hopedale, MA 01747

**Applicant**  
Skaff Petroleum, Inc.  
334 Grafton Street,  
Worcester, MA 01604

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**NOTES:**

THE ENTIRE AREA SHOWN IS WITHIN THE HB-1 ZONING DISTRICT.  
THE STREET ADDRESSES AND USES SHOWN TAKEN FROM THE TOWN GIS WEBSITE AND ON-LINE PROPERTY DATABASE.

MFR - MULTI-FAMILY RESIDENTIAL  
SFR - SINGLE-FAMILY RESIDENTIAL  
TFR - TWO FAMILY RESIDENTIAL

**LOCUS REFERENCES**  
ASSESSORS PARCEL: 18-8.1  
#1603 MAIN STREET  
OWNER: LEICESTER MAIN, LLC  
LAND COURT CERT. 16956  
LAND COURT PLAN 40185-B, LOT 1  
2.83 Acres  
  
ASSESSORS PARCEL: 18A-14 & 15  
0 & #1605 MAIN STREET  
OWNER: LEICESTER MAIN, LLC  
DEED BOOK 41309, PAGE 153  
1.05 Acres  
  
LOCUS LOTS ARE LOCATED WITHIN THE HIGHWAY BUSINESS-INDUSTRIAL 1 DISTRICT.

**NOTES**  
1. THIS PLAN IS BASED ON A FIELD SURVEY PERFORMED BY ODORE SURVEY & MAPPING IN DECEMBER 2012, AND UPDATED BY ALLEN ENGINEERING & ASSOCIATES, INC. IN DECEMBER 2020. PROPERTY LINES AND STRUCTURES BEYOND THE IMMEDIATE VICINITY OF LOCUS HAVE BEEN COMPILED FROM AVAILABLE GIS MAPS AND ARE APPROXIMATE ONLY.  
  
3. LOCUS FALLS WITHIN A FLOOD ZONE X (AREA OF MINIMAL FLOOD HAZARD) ACCORDING TO FLOOD INSURANCE RATE MAP PANEL NUMBER 25027C0780E.  
  
4. THIS SITE DOES NOT CONTAIN CERTIFIED VERNAL POOLS OR HABITATS OF RARE SPECIES ACCORDING TO THE MASSACHUSETTS NATURAL HERITAGE WEB SITE AS OF DECEMBER 2020.



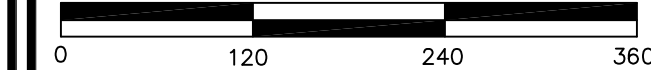
11/12/21

PROFESSIONAL ENGINEER

PREPARED FOR:  
  
Skaff Petroleum, Inc.  
334 Grafton Street,  
Worcester, MA 01604

TITLE:  
  
LOCUS PLAN  
For  
#1603 - #1605 Main Street  
In  
Leicester, MA

PREPARED BY:  
  
**ALLEN ENGINEERING & ASSOCIATES, INC.**  
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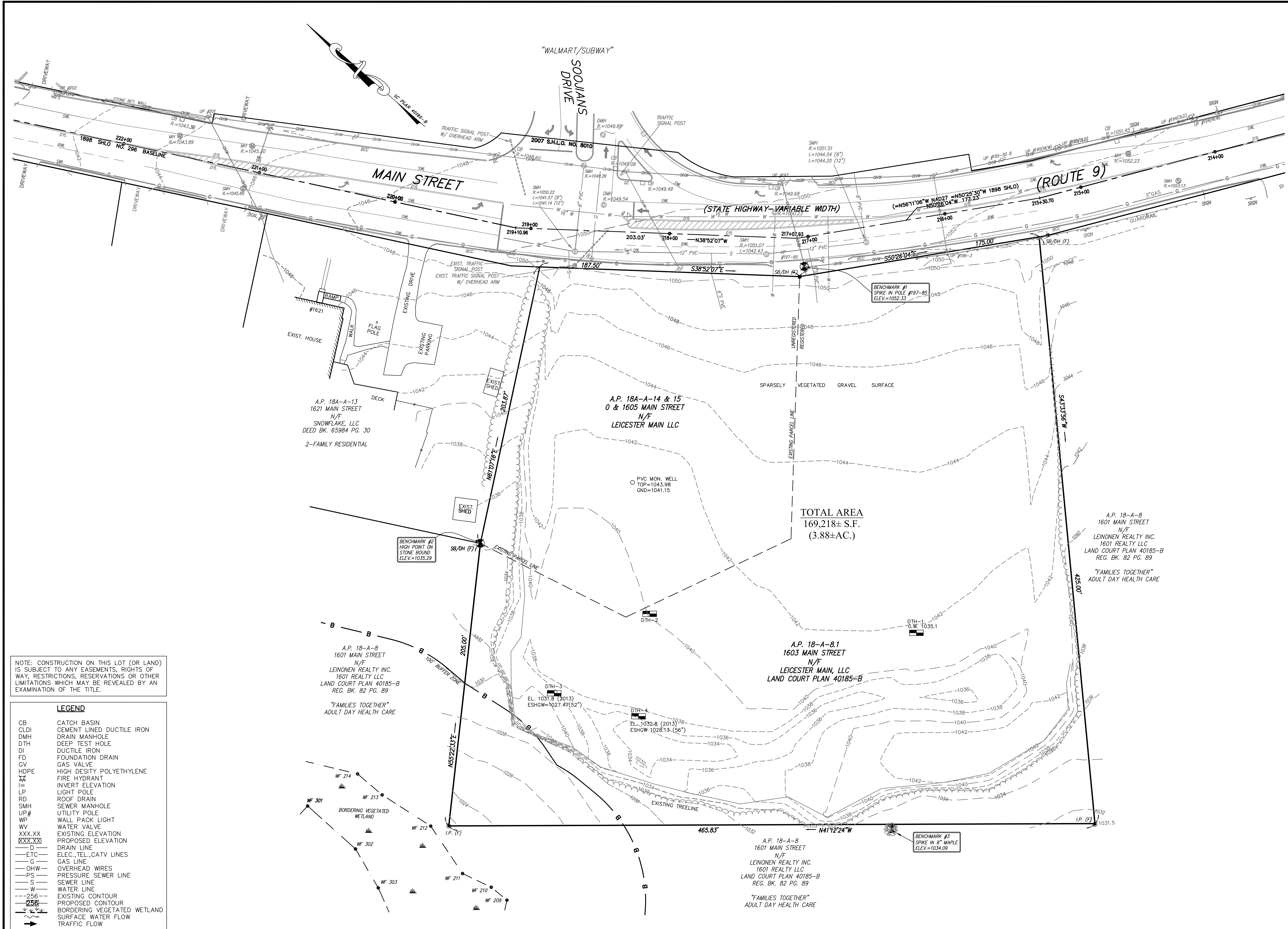
SCALE: 1"=120 FEET  


DATE: September 23, 2021

REVISIONS			
#	DATE	DESCRIPTION	INIT
1	11/12/21	PER COMMENTS	BSW

JOB NO: 00047 SHEET: 2 of 13





NOTE: CONSTRUCTION ON THIS LOT (OR LAND) IS SUBJECT TO ANY EASEMENTS, RIGHTS OF WAY, RESTRICTIONS, RESERVATIONS OR OTHER LIMITATIONS WHICH MAY BE REVEALED BY AN EXAMINATION OF THE TITLE.

LEGEND	
CB	CATCH BASIN
CLDI	CEMENT LINED DUCTILE IRON
DMH	DRAIN MANHOLE
DTH	DEEP TEST HOLE
DI	DUCTILE IRON
FD	FOUNDATION DRAIN
GV	GAS VALVE
HDPE	HIGH DENSITY POLYETHYLENE
PS	FIRE HYDRANT
I=	INVERT ELEVATION
LP	LIGHT POLE
RD	ROOF DRAIN
SMH	SEWER MANHOLE
UP#	UTILITY POLE
WP	WALL PACK LIGHT
WV	WATER VALVE
XXX.XX	EXISTING ELEVATION
XXX.XX	PROPOSED ELEVATION
-D-	DRAIN LINE
-ETC-	ELEC., TEL., CATV LINES
-G-	GAS LINE
-OHW-	OVERHEAD WIRES
-PS-	PRESSURE SEWER LINE
-S-	SEWER LINE
-W-	WATER LINE
---256---	EXISTING CONTOUR
---250---	PROPOSED CONTOUR
	BORDERING VEGETATED WETLAND
	SURFACE WATER
	TRAFFIC FLOW

LOCUS REFERENCES

ASSESSORS PARCEL: 18-A-8.1  
#1603 MAIN STREET  
OWNER: LEICESTER MAIN, LLC  
LAND COURT CERT. 16956  
REG. BK. 85, PG. 156  
LAND COURT PLAN 40185-B, LOT 1

ASSESSORS PARCEL: 18A-A-14 & 15  
0 & #1605 MAIN STREET  
OWNER: LEICESTER MAIN, LLC  
DEED BOOK 41309, PAGE 153

LOCUS LOTS ARE LOCATED WITHIN THE HIGHWAY BUSINESS-INDUSTRIAL 1 DISTRICT.

NOTES

1. THIS PLAN IS BASED ON A FIELD SURVEY PERFORMED BY ODONE SURVEY & MAPPING IN DECEMBER 2012, AND UPDATED BY ALLEN ENGINEERING & ASSOCIATES, INC. IN DECEMBER 2020.

2. ELEVATIONS REFER TO NAD 88 VERTICAL DATUM.

3. THE SITE FALLS WITHIN A FLOOD ZONE X (AREA OF MINIMAL FLOOD HAZARD) ACCORDING TO FLOOD INSURANCE RATE MAP PANEL NUMBER 25027C0780E.

4. THIS SITE DOES NOT CONTAIN CERTIFIED VERNAL POOLS OR HABITATS OF RARE SPECIES ACCORDING TO THE MASSACHUSETTS NATURAL HERITAGE WEB SITE AS OF DECEMBER 2020.

5. EXISTING UTILITY LINES SHOWN ON THESE DRAWINGS ARE BASED ON AVAILABLE RECORD INFORMATION OF UTILITY COMPANIES AND PUBLIC AGENCIES AND ARE APPROXIMATE ONLY. EXISTING UTILITY LINES OTHER THAN THOSE SHOWN MAY BE ON THE SITE. CALL "DIG SAFE" AT 811.

6. THERE SHALL BE NO USE OF FILL CONTAINING HAZARDOUS MATERIALS.

PROFESSIONAL ENGINEER

PREPARED FOR:

Scaff Petroleum, Inc.  
334 Grafton Street,  
Worcester, MA 01604

TITLE:

EXISTING CONDITIONS  
PLAN

For

#1603 - #1605 Main Street  
In  
Leicester, MA

PREPARED BY:

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& ASSOCIATES, INC.**  
Civil Engineers • Surveyors  
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SCALE: 1"=30 FEET

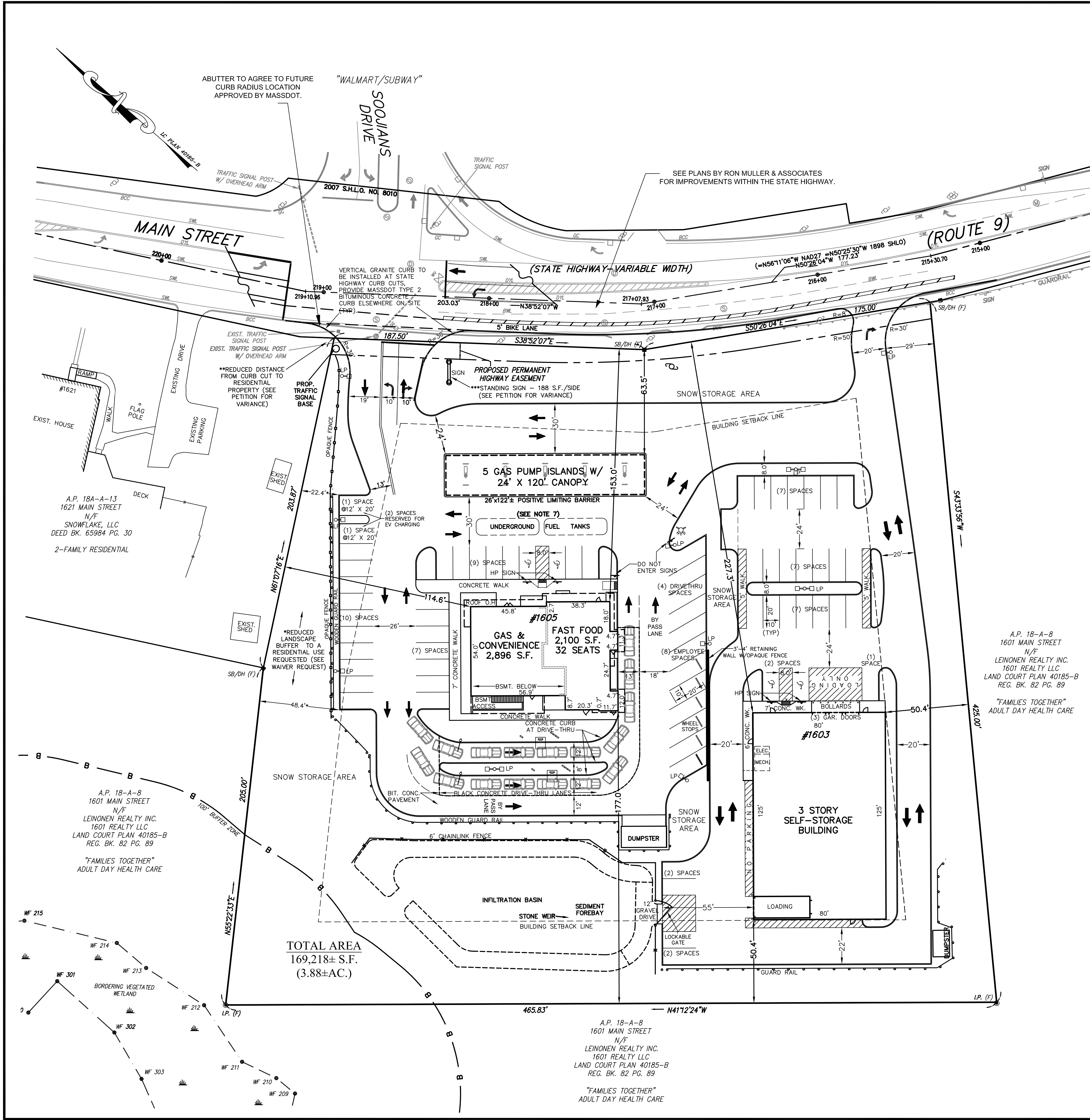
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JOB NO: 00047

SHEET: 3 of 13





**LEGEND**

CB CATCH BASIN  
CLDI CEMENT LINED DUCTILE IRON  
DMH DRAIN MANHOLE  
DTH DEEP TEST HOLE  
DI DUCTILE IRON  
FD FOUNDATION DRAIN  
GV GAS VALVE  
HDPE HIGH DENSITY POLYETHYLENE  
H FIRE HYDRANT  
I= INVERT ELEVATION  
LP LIGHT POLE  
RD ROOF DRAIN  
SMH SEWER MANHOLE  
UP# UTILITY POLE  
WP WALL PACK LIGHT  
WV WATER VALVE  
XXX.XX EXISTING ELEVATION  
XXX.XX PROPOSED ELEVATION  
D DRAIN LINE  
ETC ELEC., TEL., CATV LINES  
G GAS LINE  
OHW OVERHEAD WIRES  
PS PRESSURE SEWER LINE  
S SEWER LINE  
W WATER LINE  
-256- EXISTING CONTOUR  
256 PROPOSED CONTOUR  
BORDERING VEGETATED WETLAND  
SURFACE WATER FLOW  
TRAFFIC FLOW

NOTE: CONSTRUCTION ON THIS LOT (OR LAND) IS SUBJECT TO ANY EASEMENTS, RIGHTS OF WAY, RESTRICTIONS, RESERVATIONS OR OTHER LIMITATIONS WHICH MAY BE REVEALED BY AN EXAMINATION OF THE TITLE.

**PLANNING BOARD WAIVER REQUEST:**  
\*REDUCED LANDSCAPE BUFFER TO A RESIDENTIAL USE REQUESTED, BYLAW SECT. 5.5.02.2B. (50 FEET REQUIRED).

PROPOSED - 48.4 FEET, AND REQUEST TO ALLOW PARKING AND DRIVEWAY WITHIN THE BUFFER ADJACENT TO #1621 MAIN STREET. AN OPAQUE FENCE IS PROPOSED WITHIN THE BUFFER TO #1621 TO MITIGATE SCREENING LOST BY REDUCTION OF THE BUFFER.

**ZONING BOARD OF APPEALS PETITION FOR VARIANCE:**  
\*\*REDUCED DISTANCE FROM CURB CUT TO RESIDENTIAL PROPERTY, BYLAW SECT. 5.5.02.1.C.1. (24 FEET REQUIRED).

PROPOSED - 1 FOOT AT #1621 MAIN STREET PROPERTY. THE REDUCTION IS REQUESTED TO ALLOW THE NEW SITE ENTRANCE TO ALIGN WITH THE EXISTING SOOJIAN DRIVE INTERSECTION ACROSS MAIN STREET (ROUTE 9). GRANTING THIS VARIANCE WILL ALLOW A SAFER SIGNALIZED INTERSECTION ON THE STATE HIGHWAY. THIS REQUEST IS MADE NECESSARY DUE TO THE SPECIFIC SHAPE AND TOPOGRAPHY OF THE LOCUS LOT, AND DOES NOT GENERALLY AFFECT THE HB-1 DISTRICT IN WHICH IT IS LOCATED.

**ZONING BOARD OF APPEALS PETITION FOR VARIANCE:**  
\*\*\*STANDING SIGN - SIZE, BYLAW SECT. 3.2.07-2 (NOT TO EXCEED 30 SQUARE FEET).

PROPOSED - STANDING SIGN WITH AN AREA OF 188 SQUARE FEET ON EACH SIDE. THE VARIANCE IS REQUESTED IN ORDER TO ALLOW THE DISPLAY OF PRICES FOR SEVERAL FUEL GRADES AT SUCH A SIZE AS CAN BE READILY SEEN BY DRIVERS, AND ADDITIONALLY PROVIDE SIGNAGE FOR THE THREE OTHER BUSINESSES ON THE PROJECT SITE. THIS PETITION OWES TO THE CIRCUMSTANCES RELATED SPECIFICALLY TO THE STRUCTURES INVOLVED, WHICH INCLUDE FOUR SEPARATE AND DISTINCT USES PROPOSED ON THIS PARTICULAR SITE, AND NOT AFFECTING GENERALLY THE HB-1 DISTRICT.

ZONING TABLE		#1603	#1605
ZONING DISTRICT: HIGHWAY BUSINESS-INDUSTRIAL 1		REQUIRED	PROPOSED
MIN. LOT SIZE	60,000 S.F.	169,218 S.F.	169,218 S.F.
MINIMUM LOT FRONTAGE	200 FEET	362.50 FEET	362.50 FEET
SETBACKS:			
FRONT	50 FEET	227.3 FEET	153.0 FEET
SIDE	50 FEET	50.4 FEET	114.6 FEET
REAR	50 FEET	50.4 FEET	177.0 FEET
BUILDING COVERAGE:		40% MAX.	9%
MAXIMUM BUILDING HEIGHT	55 FEET	36.2 FEET	18.7 FEET
	5 1/2 STY.	3 STY.	1 STY.
PARKING REQUIREMENTS:			
STALL DIMENSIONS		10' x 20'	10' x 20'
AISLE WIDTH		10' x 20'	10' x 20'
90° PARKING	24'	24'	26'
60° PARKING	16'	24'	18'
NUMBER OF SPACES REQUIRED BY USE:			
RENTAL ENCLOSED SELF-STORAGE (3+1 PER 100 UNITS)	3+3	6	28
RESTAURANT (1 PER EMP. + 1 PER 3 SEATS)	8+32/3=19	33	40
RETAIL (1 PER 200 S.F. GROSS FLOOR SPACE)	2896/200=14		
ADA PARKING REQUIREMENT (26-50 SPACES)	2 SPACES	2 SPACES	2 SPACES
LANDSCAPING REQUIREMENTS:			
5% INTERIOR PARKING LANDSCAPE REQUIRED			
68 PARKING SPACES (10W x 20L) = 13,600 S.F.	680 S.F.	4,215 S.F.	
5% (0.05) x 13,600 S.F. = 680 S.F.			
(1) TREE PER 35 SPACES (68/35) = 1.9	2 TREES	17 TREES	

- LOCUS REFERENCES**  
ASSESSORS PARCEL: 18-8.1  
#1603 MAIN STREET  
OWNER: LEICESTER MAIN, LLC  
LAND COURT CERT. 16956  
LAND COURT PLAN 40185-B, LOT 1  
2.83 Acres
- ASSESSORS PARCEL: 18A-14 & 15  
0 & #1605 MAIN STREET  
OWNER: LEICESTER MAIN, LLC  
DEED BOOK 41309, PAGE 153  
1.05 Acres
- LOCUS LOTS ARE LOCATED WITHIN THE HIGHWAY BUSINESS-INDUSTRIAL 1 DISTRICT.
- NOTES**  
1. THIS PLAN IS BASED ON A FIELD SURVEY PERFORMED BY ODORE SURVEY & MAPPING IN DECEMBER 2012, AND UPDATED BY ALLEN ENGINEERING & ASSOCIATES, INC. IN DECEMBER 2020.  
2. ELEVATIONS REFER TO NAD 88 VERTICAL DATUM.  
3. THE SITE FALLS WITHIN A FLOOD ZONE X (AREA OF MINIMAL FLOOD HAZARD) ACCORDING TO FLOOD INSURANCE RATE MAP PANEL NUMBER 25027C0780E.  
4. THIS SITE DOES NOT CONTAIN CERTIFIED VERNAL POOLS OR HABITATS OF RARE SPECIES ACCORDING TO THE MASSACHUSETTS NATURAL HERITAGE WEB SITE AS OF DECEMBER 2020.  
5. EXISTING UTILITY LINES SHOWN ON THESE DRAWINGS ARE BASED ON AVAILABLE RECORD INFORMATION OF UTILITY COMPANIES AND PUBLIC AGENCIES AND ARE APPROXIMATE ONLY. EXISTING UTILITY LINES OTHER THAN THOSE SHOWN MAY BE ON THE SITE. CALL "DIG SAFE" AT 811.  
6. THERE SHALL BE NO USE OF FILL CONTAINING HAZARDOUS MATERIALS.  
7. APPLICANT SHALL PROVIDE CONSTRUCTION DRAWINGS FOR UNDERGROUND STORAGE TANKS WITH APPLICATION FOR BUILDING PERMIT. DEPTH OF LEDGE/REFUSAL TO BE DETERMINED PRIOR TO DESIGN.



PROFESSIONAL ENGINEER

PREPARED FOR:

**Skaff Petroleum, Inc.**  
334 Grafton Street,  
Worcester, MA 01604

TITLE:

**SITE LAYOUT PLAN**  
For  
#1603 - #1605 Main Street  
In  
Leicester, MA

PREPARED BY:

**ALLEN ENGINEERING & ASSOCIATES, INC.**  
Civil Engineers • Surveyors  
Land Development Consultants  
One Charlesview Road  
Suite 2  
Hopdale, Ma 01747  
(508) 381-3212 • Phone  
www.allenrea.com

SCALE: 1"=30 FEET

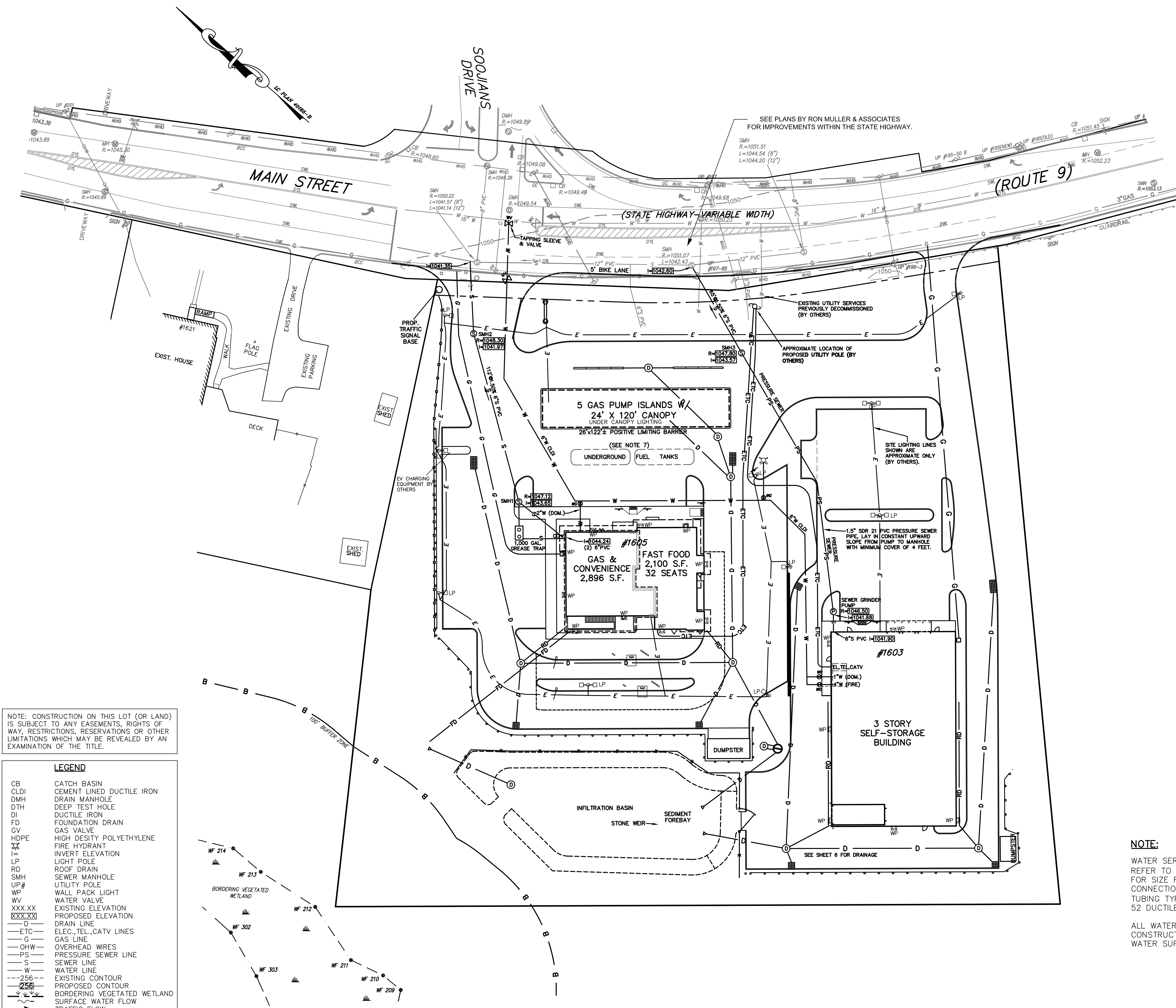
DATE: September 23, 2021

REVISIONS

#	DATE	DESCRIPTION	INIT
1	11/12/21	PER COMMENTS	BSW

JOB NO: 00047 SHEET: 4 of 13





NOTE: CONSTRUCTION ON THIS LOT (OR LAND) IS SUBJECT TO ANY EASEMENTS, RIGHTS OF WAY, RESTRICTIONS, RESERVATIONS OR OTHER LIMITATIONS WHICH MAY BE REVEALED BY AN EXAMINATION OF THE TITLE.

LEGEND	
CB	CATCH BASIN
CLDI	CEMENT LINED DUCTILE IRON
DMH	DRAIN MANHOLE
DTH	DEEP TEST HOLE
DI	DUCTILE IRON
FD	FOUNDATION DRAIN
GV	GAS VALVE
HDPE	HIGH DENSITY POLYETHYLENE
HY	FIRE HYDRANT
IE	INVERT ELEVATION
LP	LIGHT POLE
RD	ROOF DRAIN
SMH	SEWER MANHOLE
UP#	UTILITY POLE
WP	WALL PACK LIGHT
WV	WATER VALVE
XXX.XX	EXISTING ELEVATION
XXX.XX	PROPOSED ELEVATION
D	DRAIN LINE
ETC	ELEC., TEL., CATV LINES
G	GAS LINE
OHW	OVERHEAD WIRES
PS	PRESSURE SEWER LINE
S	SEWER LINE
W	WATER LINE
256	EXISTING CONTOUR
256	PROPOSED CONTOUR
WETLAND	BORDERING VEGETATED WETLAND
WETLAND	SURFACE WATER FLOW
ARROW	TRAFFIC FLOW

LOCUS REFERENCES  
ASSESSORS PARCEL: 18-8.1  
#1603 MAIN STREET  
OWNER: LEICESTER MAIN, LLC  
LAND COURT CERT. 16956  
LAND COURT PLAN 40185-B, LOT 1  
2.83 Acres  
  
ASSESSORS PARCEL: 18A-14 & 15  
0 & #1605 MAIN STREET  
OWNER: LEICESTER MAIN, LLC  
DEED BOOK 41309, PAGE 153  
1.05 Acres  
  
LOCUS LOTS ARE LOCATED WITHIN THE HIGHWAY BUSINESS-INDUSTRIAL 1 DISTRICT.  
  
NOTES  
1. THIS PLAN IS BASED ON A FIELD SURVEY PERFORMED BY ODRONE SURVEY & MAPPING IN DECEMBER 2012, AND UPDATED BY ALLEN ENGINEERING & ASSOCIATES, INC. IN DECEMBER 2020.  
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PROFESSIONAL ENGINEER  
PREPARED FOR:  
**Skaff Petroleum, Inc.**  
334 Grafton Street,  
Worcester, MA 01604  
  
TITLE:  
**SITE UTILITIES & LIGHTING PLAN**  
For  
**#1603 - #1605 Main Street**  
In  
**Leicester, MA**

PREPARED BY:  
  
**ALLEN ENGINEERING & ASSOCIATES, INC.**  
Civil Engineers • Surveyors  
Land Development Consultants  
One Charlesview Road  
Suite 2  
Hopdale, Ma 01747  
(508) 381-3212 • Phone  
www.allenrea.com

SCALE: 1"=30 FEET  
0 30 60 90

DATE: **September 23, 2021**

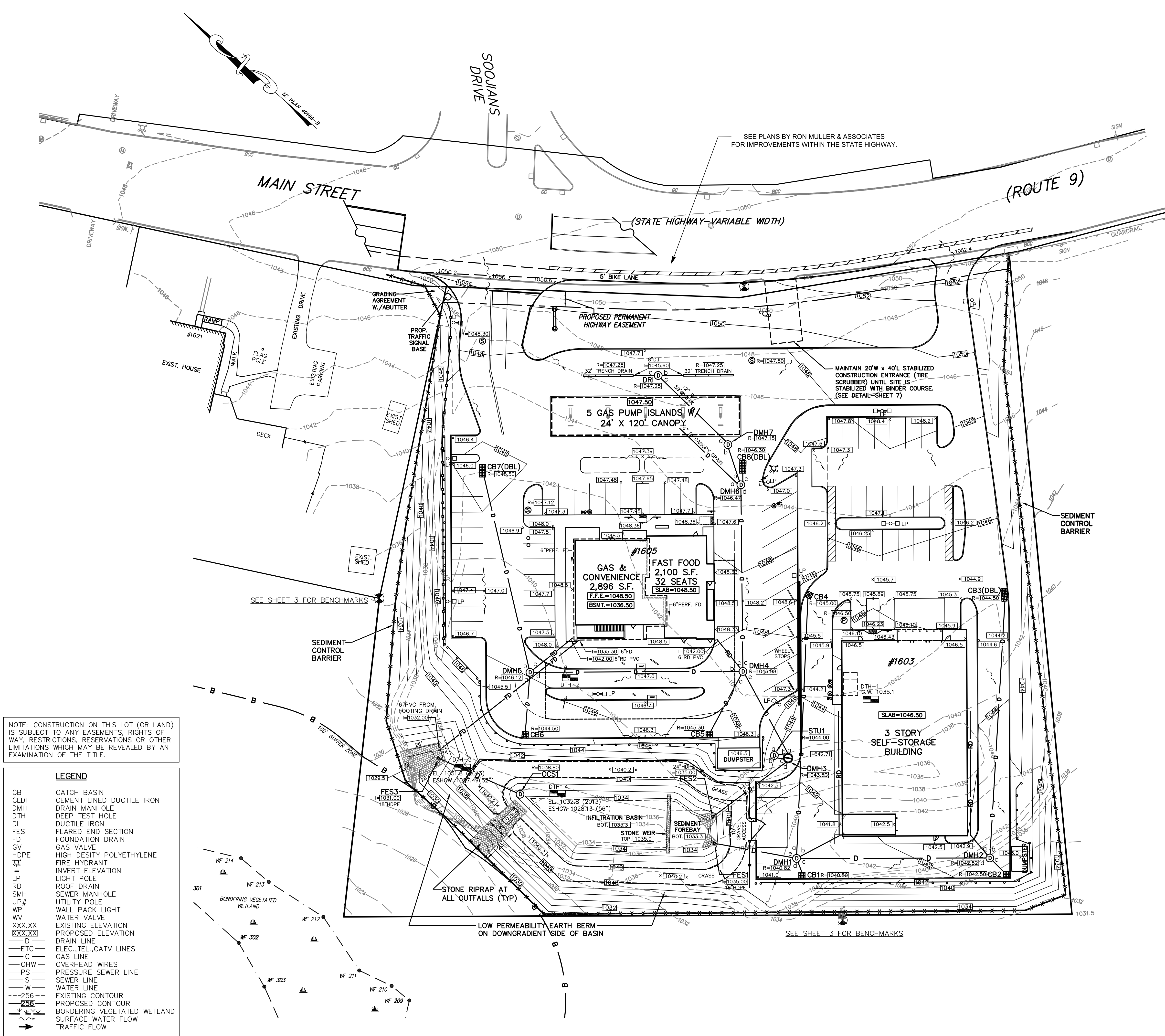
REVISIONS			
#	DATE	DESCRIPTION	INIT
1	11/12/21	PER COMMENTS	BSW

JOB NO: 00047 SHEET: 5 of 13

**NOTE:**  
WATER SERVICE SIZES ARE SUBJECT TO CHANGE - REFER TO BUILDING MECHANICAL/PLUMBING PLANS FOR SIZE REQUIREMENTS. WATER SERVICE CONNECTIONS UP TO 2 INCHES SHALL BE COPPER TUBING TYPE "K". LARGER SERVICES SHALL BE CLASS 52 DUCTILE IRON DOUBLE CEMENT LINED.

ALL WATER AND SEWER CONNECTIONS SHALL BE CONSTRUCTED PER REGULATIONS OF THE LEICESTER WATER SUPPLY DISTRICT.





NOTE: CONSTRUCTION ON THIS LOT (OR LAND) IS SUBJECT TO ANY EASEMENTS, RIGHTS OF WAY, RESTRICTIONS, RESERVATIONS OR OTHER LIMITATIONS WHICH MAY BE REVEALED BY AN EXAMINATION OF THE TITLE.

LEGEND	
CB	CATCH BASIN
CLDI	CEMENT LINED DUCTILE IRON
DMH	DRAIN MANHOLE
OTH	DEEP TEST HOLE
DI	DUCTILE IRON
FES	FLARED END SECTION
FD	FOUNDATION DRAIN
GV	GAS VALVE
HDPE	HIGH DENSITY POLYETHYLENE
I=	INVERT ELEVATION
LP	ROOF DRAIN
RD	SEWER MANHOLE
SMH	UTILITY POLE
UP#	WALL PACK LIGHT
WP	WATER VALVE
WV	EXISTING ELEVATION
XXX.XX	PROPOSED ELEVATION
---D---	DRAIN LINE
---E---	ELEC. TEL. CATV LINES
---G---	GAS LINE
---OHW---	OVERHEAD WIRES
---PS---	PRESSURE SEWER LINE
---S---	SEWER LINE
---W---	WATER LINE
---256---	EXISTING CONTOUR
---258---	PROPOSED CONTOUR
WETLAND	BORDERING VEGETATED WETLAND
WATER	SURFACE WATER FLOW
ARROW	TRAFFIC FLOW

DRAINAGE SCHEDULE

- CB1  
R=1040.50  
I=1036.50 12"HDPE
- CB2  
R=1042.50  
I=1037.95 12"HDPE
- CB3 (DOUBLE)  
R=1044.50  
I=1040.00 12"HDPE
- CB4  
R=1045.00  
I=1040.00 12"HDPE
- CB5  
R=1045.30  
I=1040.30 12"HDPE
- CB6  
R=1044.50  
I=1040.75 12"HDPE
- CB7 (DOUBLE GRATE)  
R=1045.50  
I=1041.50 12"HDPE
- CB8 (DOUBLE GRATE)  
R=1046.30  
I=1040.78 18"HDPE
- DMH1  
R=1040.82  
I(a)=1036.38 12"HDPE  
I(b)=1036.32 6"PVC ROOF DRAIN  
I(c)=1036.02 15"HDPE  
I(d)=1036.38 12"HDPE  
I(e)=1035.77 18"HDPE
- DMH2  
R=1042.82  
I(a)=1038.32 6"PVC ROOF DRAIN  
I(b)=1037.77 12"HDPE  
I(c)=1037.77 12"HDPE  
I(d)=1037.52 15"HDPE
- DMH3 (S.I.D.)  
R=1043.5  
I(a)=1036.37 24"HDPE  
I(b)=1036.37 12"HDPE  
I(c)=1036.20 12"HDPE  
I(d)=1035.86 24"HDPE  
TOP DIVERSION WEIR=1036.75  
(SEE SHEET 10)
- DMH4  
R=1046.98  
I(a)=1039.67 12"HDPE  
I(b)=1038.44 18"HDPE  
I(c)=1041.50 6"PVC RD  
I(d)=1038.84 18"HDPE  
I(e)=1037.35 24"HDPE
- DMH5  
R=1046.12  
I(a)=1040.39 12"HDPE  
I(b)=1040.22 12"HDPE  
I(c)=1041.40 6"PVC RD  
I(d)=1039.89 18"HDPE
- DMH6  
R=1046.47  
I(a)=1042.30 6"DI  
I(b)=1042.04 12"HDPE  
I(c)=1040.68 18"HDPE  
I(d)=1040.58 18"HDPE
- DMH7 (4' SUMP & OUTLET TRAP)  
R=1047.15  
I(a)=1042.59 12"DI  
I(b)=1042.49 12"HDPE
- DRI (DROP INLET)  
R=1047.25  
I(a)=1045.18 8"DI  
I(b)=1045.18 8"DI  
I(c)=1043.75 12"DI
- OCS1 (OUTLET CONTROL STRUCTURE)  
R=1038.88  
I=1033.50 18"HDPE  
(SEE SHEET 9 FOR INLET ELEVATIONS)
- STU1 (STORMWATER TREATMENT UNIT)  
R=1044.0  
I(a)=1036.30 12"HDPE  
I(b)=1036.30 12"HDPE  
(SEE SHEET 10)

NOTE:  
PROPOSED GRADING SHOWN  
REQUIRES 17,400± CUBIC YARDS  
OF FILL.

LOCUS REFERENCES  
ASSESSORS PARCEL: 18-8.1  
#1603 MAIN STREET  
OWNER: LEICESTER MAIN, LLC  
LAND COURT CERT. 16956  
LAND COURT PLAN 40185-B, LOT 1  
2.83 Acres

ASSESSORS PARCEL: 18A-14 & 15  
0 & #1605 MAIN STREET  
OWNER: LEICESTER MAIN, LLC  
DEED BOOK 41309, PAGE 153  
1.05 Acres

LOCUS LOTS ARE LOCATED WITHIN THE  
HIGHWAY BUSINESS-INDUSTRIAL 1  
DISTRICT.

NOTES  
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SURVEY PERFORMED BY OZONE SURVEY  
& MAPPING IN DECEMBER 2012, AND  
UPDATED BY ALLEN ENGINEERING &  
ASSOCIATES, INC. IN DECEMBER 2020.

2. ELEVATIONS REFER TO NAD 88  
VERTICAL DATUM.

3. THE SITE FALLS WITHIN A FLOOD  
ZONE X (AREA OF MINIMAL FLOOD  
HAZARD) ACCORDING TO FLOOD  
INSURANCE RATE MAP PANEL NUMBER  
25027C0780E.

4. THIS SITE DOES NOT CONTAIN  
CERTIFIED VERNAL POOLS OR HABITATS  
OF RARE SPECIES ACCORDING TO THE  
MASSACHUSETTS NATURAL HERITAGE  
WEB SITE AS OF DECEMBER 2020.

5. EXISTING UTILITY LINES SHOWN ON  
THESE DRAWINGS ARE BASED ON  
AVAILABLE RECORD INFORMATION OF  
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EXISTING UTILITY LINES OTHER THAN  
THOSE SHOWN MAY BE ON THE SITE.  
CALL "DIG SAFE" AT 811.

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UNDERGROUND STORAGE TANKS WITH  
APPLICATION FOR BUILDING PERMIT.  
DEPTH OF LEDGE/REFUSAL TO BE  
DETERMINED PRIOR TO DESIGN.

PROFESSIONAL ENGINEER

PREPARED FOR:  
**Skaff Petroleum, Inc.**  
334 Grafton Street,  
Worcester, MA 01604

TITLE:  
**GRADING & DRAINAGE  
PLAN**  
For  
**#1603 - #1605 Main Street**  
In  
**Leicester, MA**

PREPARED BY:  
  
**ALLEN ENGINEERING  
& ASSOCIATES, INC.**  
Civil Engineers - Surveyors  
Land Development Consultants  
One Charlesview Road  
Suite 2  
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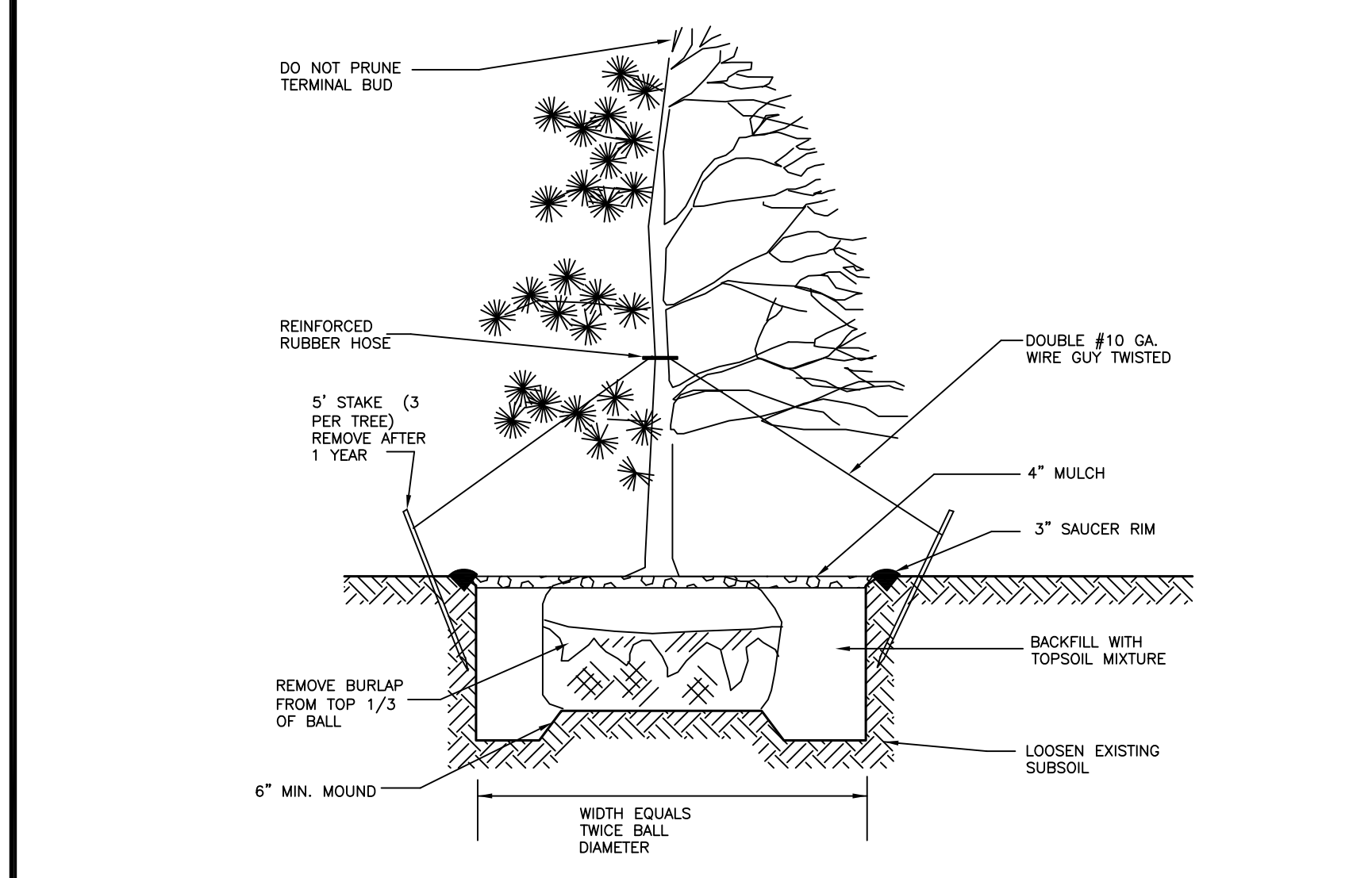
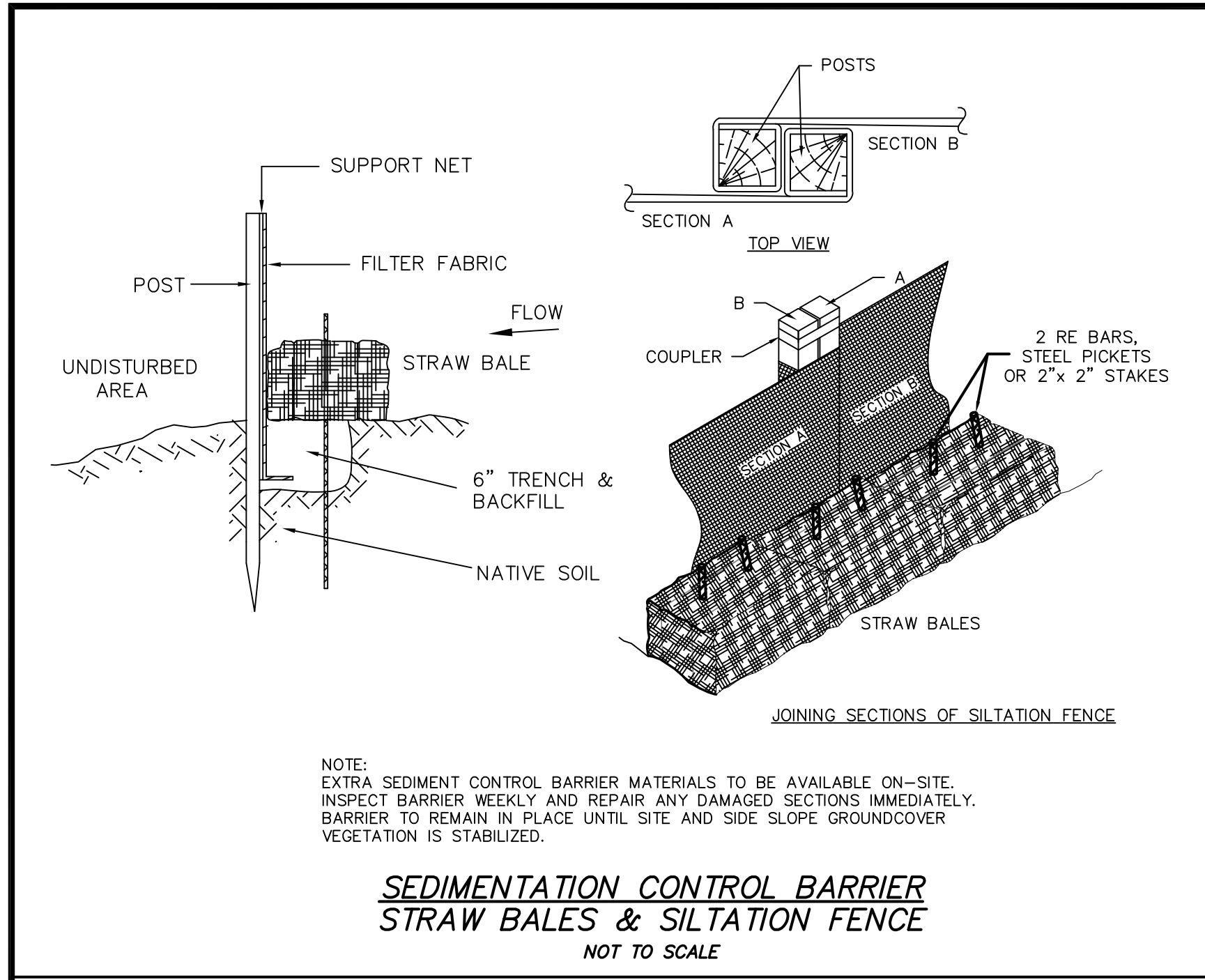
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DATE: September 23, 2021

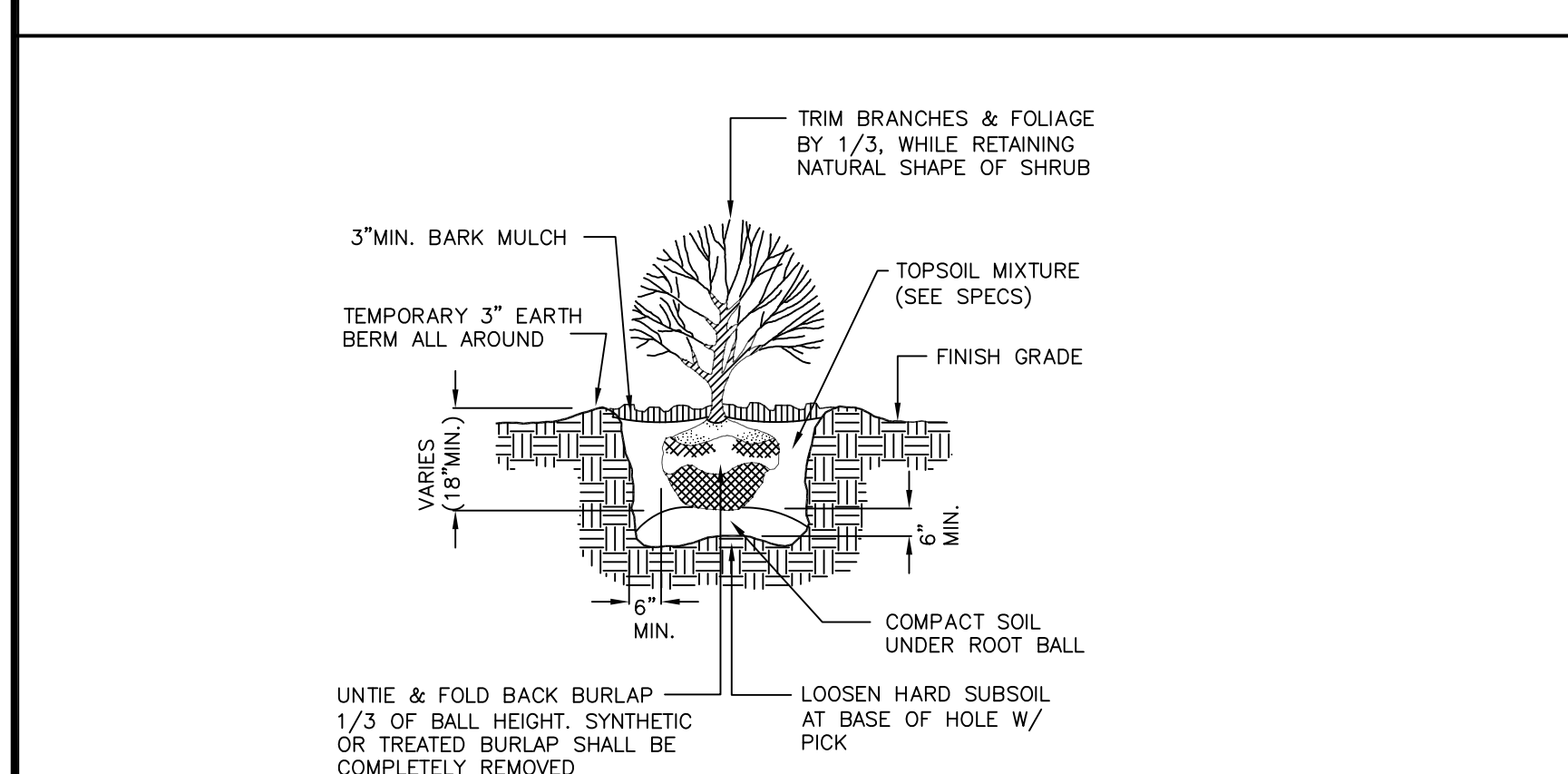
REVISIONS			
#	DATE	DESCRIPTION	INIT
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JOB NO: 00047 SHEET: 6 of 13



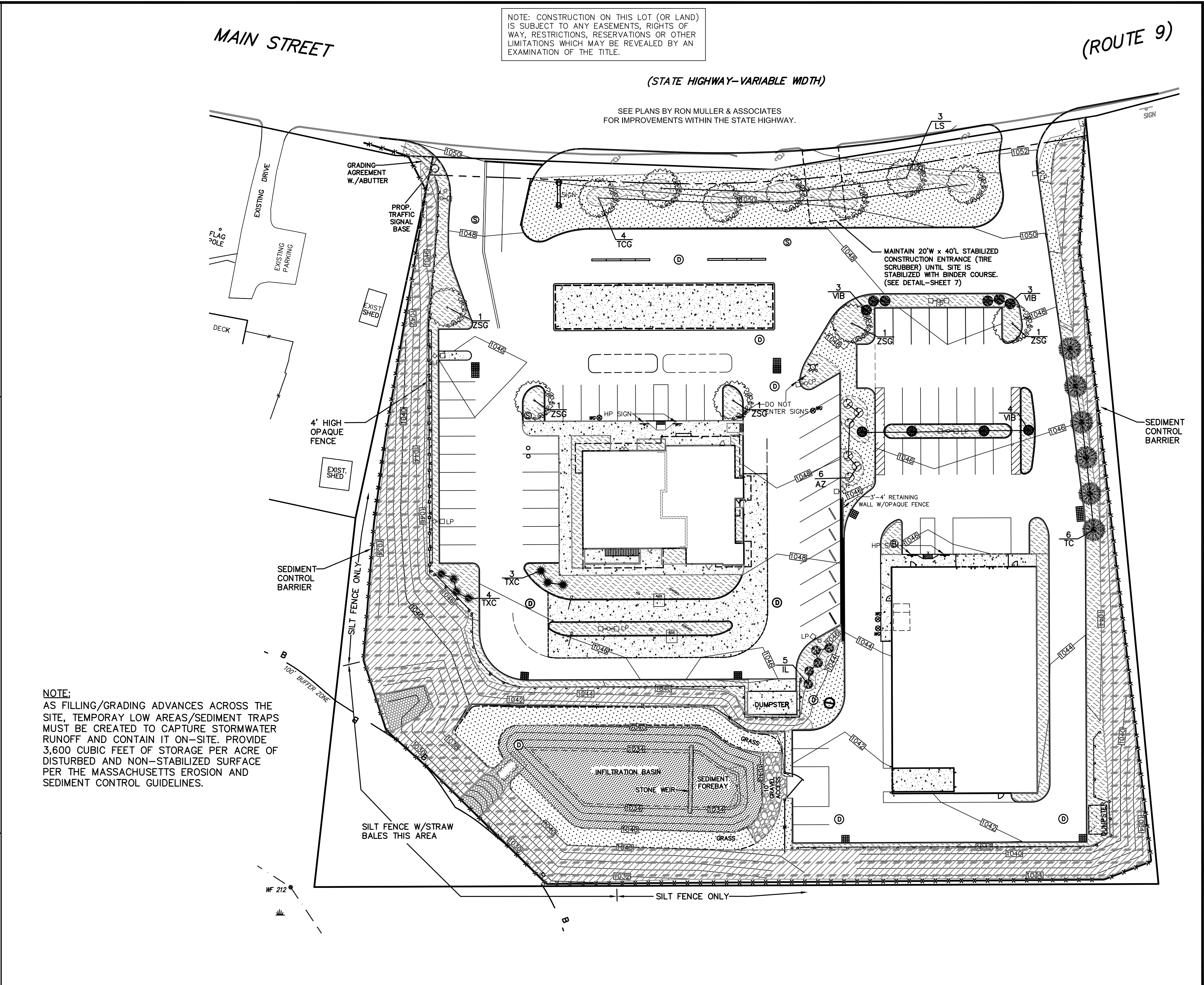


TREE SCHEDULE					
KEY	BOTANICAL NAME	COMMON NAME	SIZE	COMMENTS	NO.
LS	LIQUIDAMBAR STYRACIFLUA	AMERICAN SWEETGUM	2 - 2 1/2" CAL.	B&B	3
TC	TSUGA CANADENSIS	CANADIAN HEMLOCK	6' - 8'	B&B	6
TCG	TILIA CORDATA GREENSPIRE	GREENSPIRE LITTLE LEAF LINDEN	2 - 2 1/2" CAL.	B&B	4
ZSG	ZELCOVA SERRATA GREEN VASE	GREEN VASE ZELCOVA	2 - 2 1/2" CAL.	B&B	5



SHRUB SCHEDULE				
KEY	BOTANICAL NAME	COMMON NAME	SIZE*	NO.
AZ	AZALEA DELAWARE VALLEY WHITE	DELAWARE VALLEY WHITE AZALEA	#5	6
IL	ILEX OPACA	AMERICAN HOLLY	#5	5
TXC	TAXUS CUSPIDATA NANA AURESCENS	DWARF GOLDEN JAPANESE YEW	#6	7
VIB	VIBURNUM CARLESII	MAYFLOWER VIBURNUM	#5	9

\*2.5' HIGH MIN.



**LANDSCAPE SURFACE TREATMENT KEY**

	CONCRETE PER CONSTRUCTION DETAILS. BLACK CONCRETE TO BE USED IN DRIVE-THRU VEHICLE LANES.		LAWN GRASS-PERENNIAL RYE/FESCUE/KENTUCKY BLUEGRASS MIX.
	STONE RIPRAP PER CONSTRUCTION DETAILS.		EROSION CONTROL GRASS (NEW ENGLAND EROSION CONTROL AND RESTORATION MIX FOR WET SITES) TO BE USED ON ANY GRASSED DRAINAGE SWALES OR INTERIOR OF DRAINAGE BASINS.
	GRAVEL ACCESS - 12" DEPTH OF CLEAN COMPACTED GRAVEL.		EROSION CONTROL GRASS (NEW ENGLAND EROSION CONTROL AND RESTORATION MIX FOR DRY SITES) FOR SIDESLOPES GRADED FROM 3:1 TO 2:1 (MAX.). APPLIED WITH A BONDED FIBER MATRIX/HYDROSEEDING OR BIODEGRADABLE ENVIRONMENTAL MATTING.
	4" MIN. MULCH BED. SUPPLEMENT WITH PERENNIAL AND/OR ANNUAL FEATURE PLANTINGS PER TENANT/FRANCHISE STANDARDS.	NOTE: PROVIDE 6 INCH DEPTH PREPARED LOAM BED FOR GRASSES.	

**LOCUS REFERENCES**  
ASSESSORS PARCEL: 18-8.1  
#1603 MAIN STREET  
OWNER: LEICESTER MAIN, LLC  
LAND COURT CERT. 16956  
LAND COURT PLAN 40185-B, LOT 1  
2.83 Acres

ASSESSORS PARCEL: 18A-14 & 15  
0 & #1605 MAIN STREET  
OWNER: LEICESTER MAIN, LLC  
DEED BOOK 41309, PAGE 153  
1.05 Acres

LOCUS LOTS ARE LOCATED WITHIN THE HIGHWAY BUSINESS-INDUSTRIAL 1 DISTRICT.

**NOTES**  
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**PROFESSIONAL ENGINEER**  
PREPARED FOR:  
Skaff Petroleum, Inc.  
334 Grafton Street,  
Worcester, MA 01604

**TITLE:**  
**LANDSCAPE & EROSION CONTROL PLAN**  
For  
#1603 - #1605 Main Street  
In  
Leicester, MA

**PREPARED BY:**  
**ALLEN ENGINEERING & ASSOCIATES, INC.**  
Civil Engineers • Surveyors  
Land Development Consultants  
One Charlesview Road  
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**SCALE:**  
1"=30 FEET

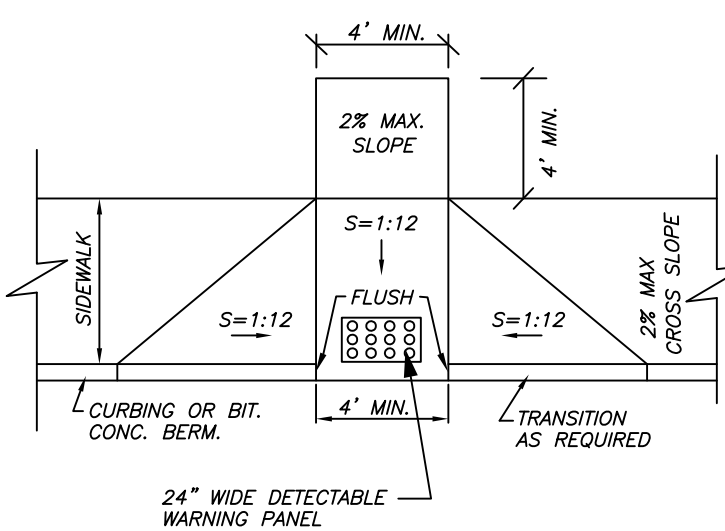
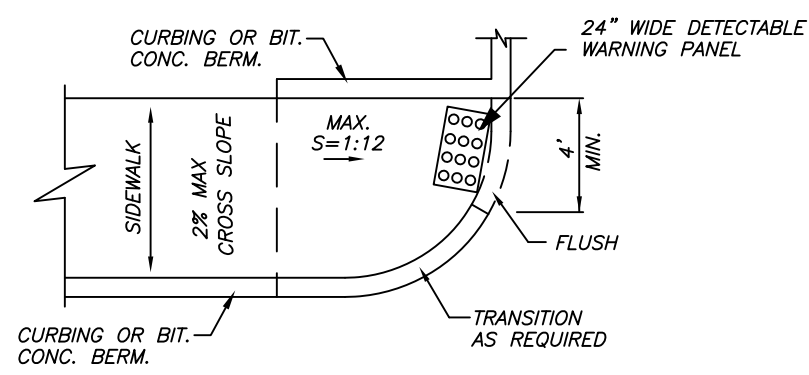
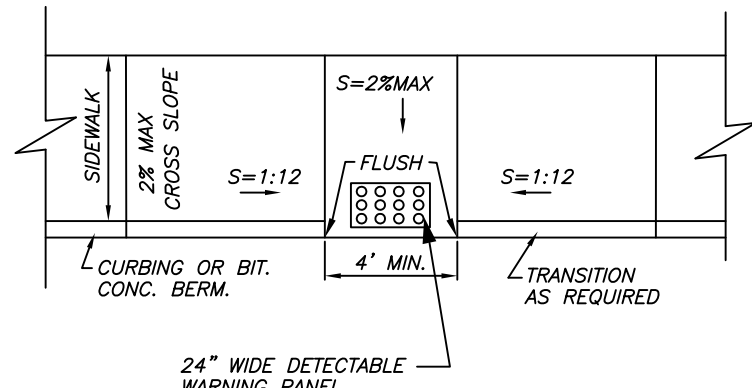
**DATE:**  
September 23, 2021

**REVISIONS**

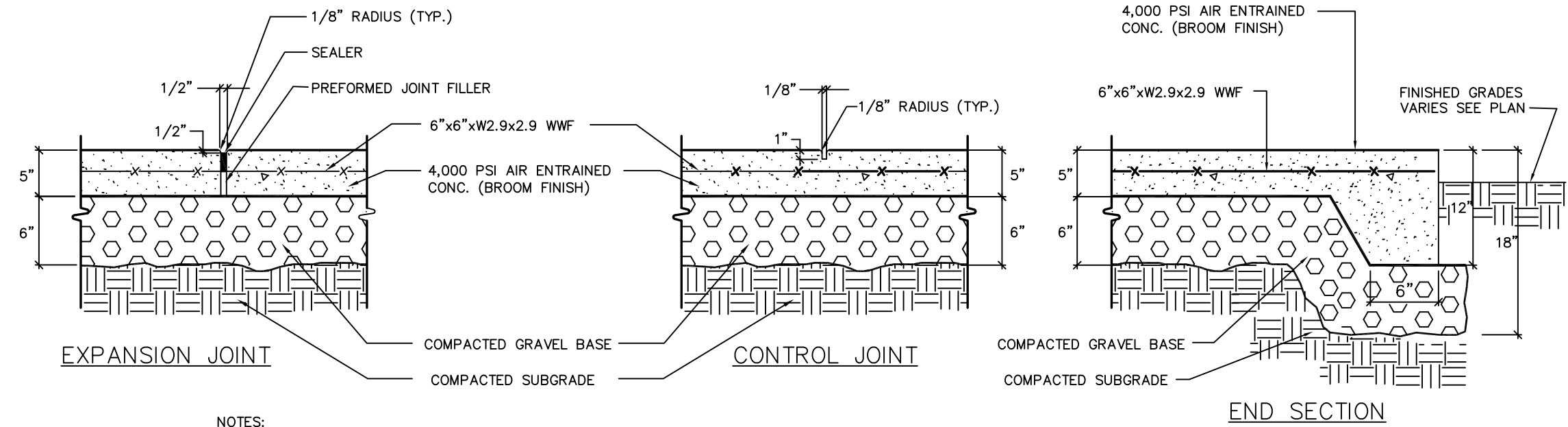
#	DATE	DESCRIPTION	INIT
1	11/12/21	PER COMMENTS	BSW

**JOB NO:** 00047 **SHEET:** 7 of 13

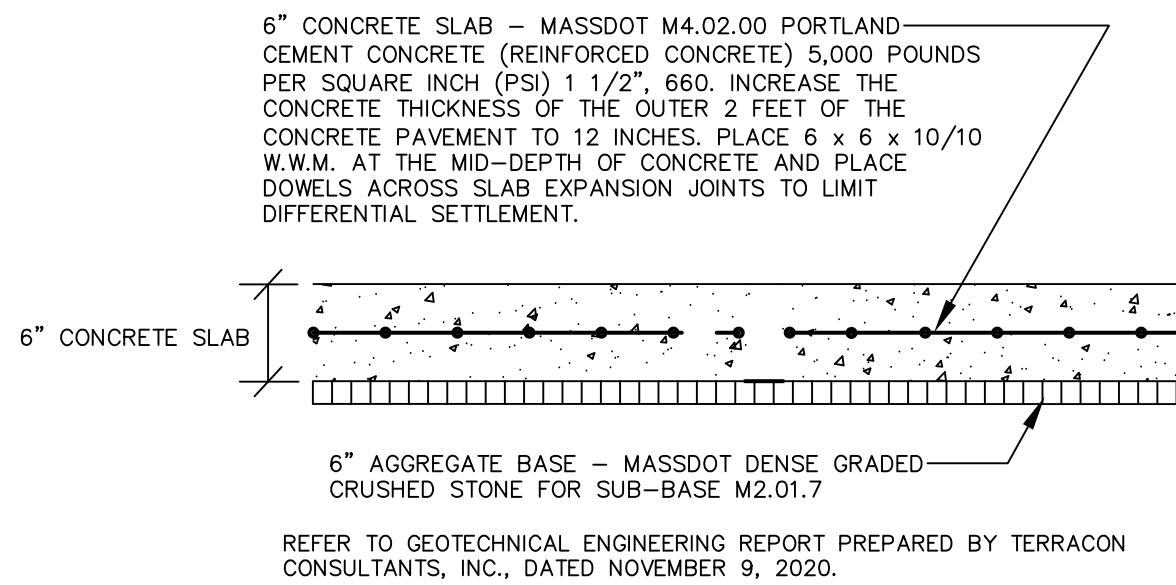




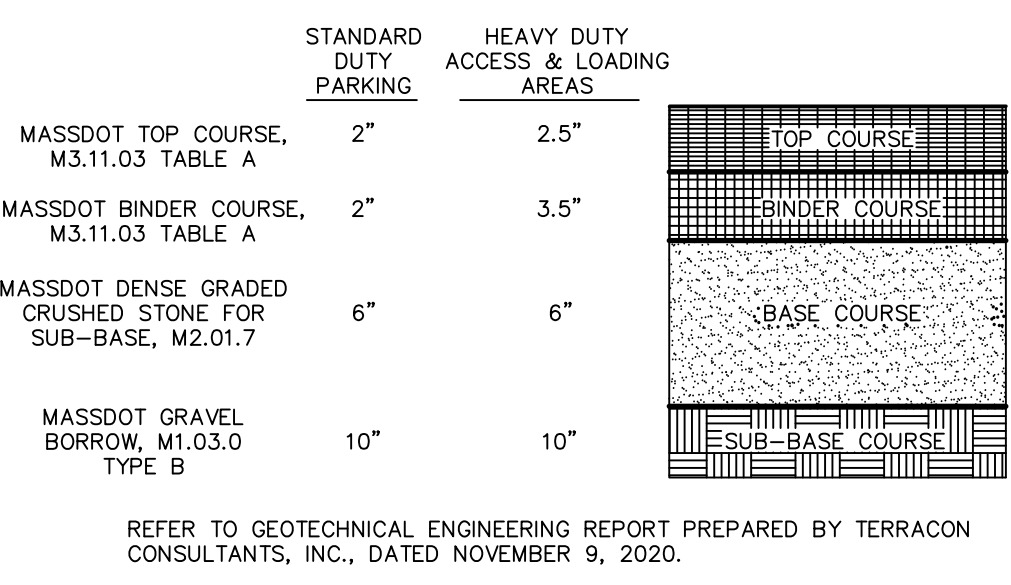
**TYPICAL SIDEWALK RAMPS**  
(NOT TO SCALE)



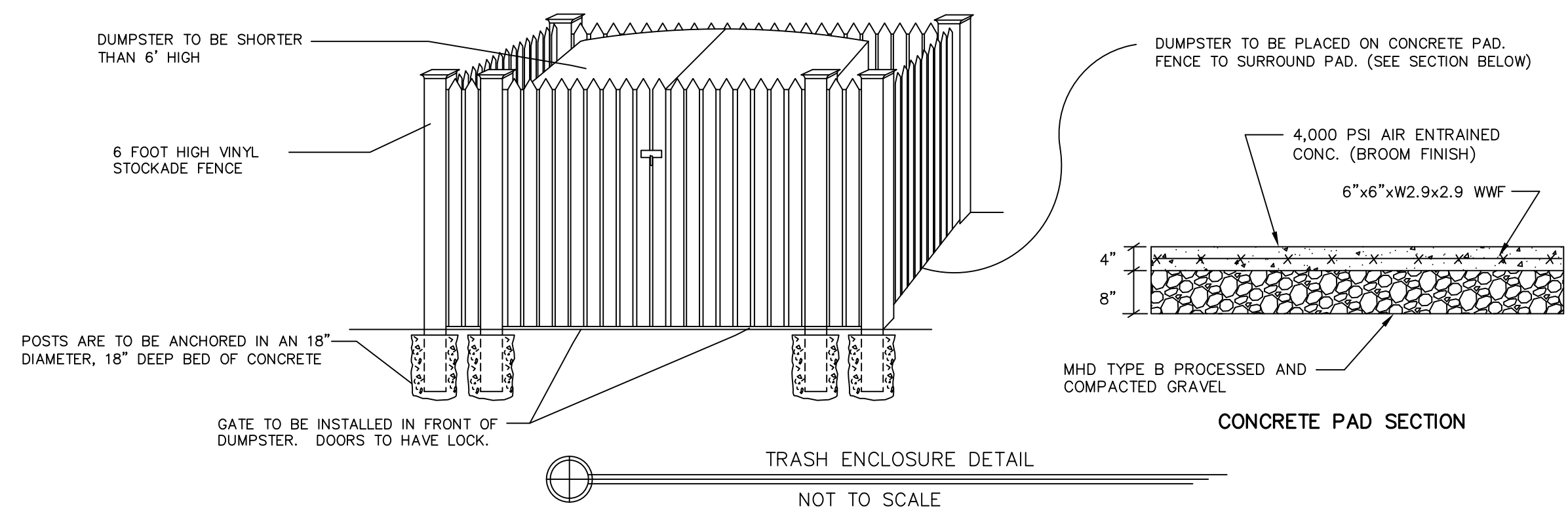
**CONCRETE WALK**  
(NOT TO SCALE)



**CONCRETE PAD FOR VEHICULAR TRAFFIC**  
(NOT TO SCALE)

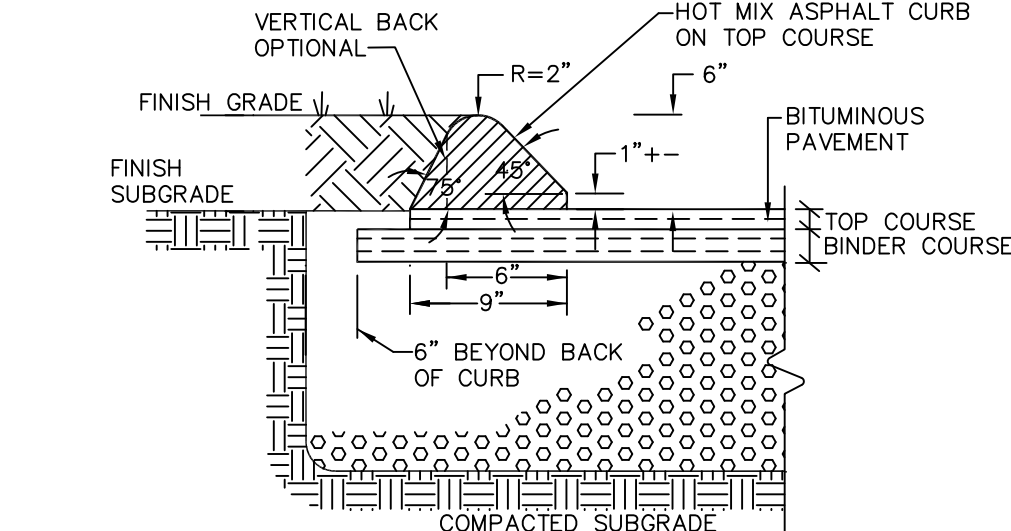


**BITUMINOUS CONCRETE PAVEMENT SECTION**  
(NOT TO SCALE)

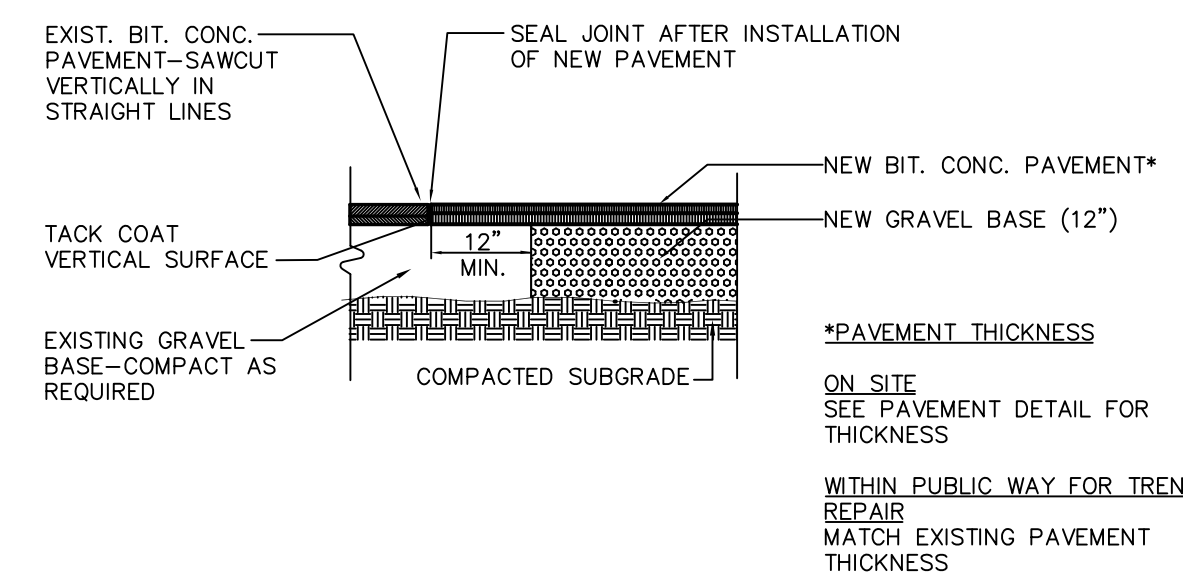


**TRASH ENCLOSURE DETAIL**

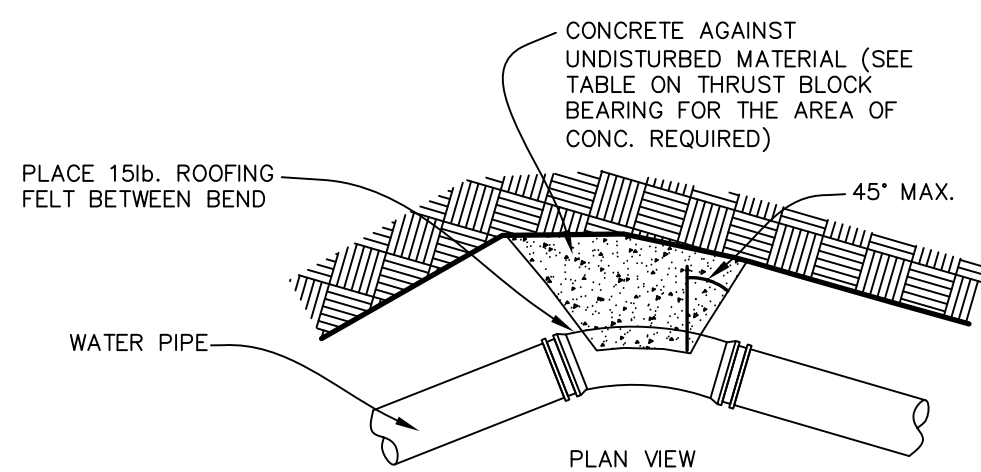
**CONCRETE PAD SECTION**



**MASSDOT TYPE 2 BITUMINOUS CONCRETE CURB**  
(NOT TO SCALE)



**PAVEMENT JOINTING**  
(NOT TO SCALE)



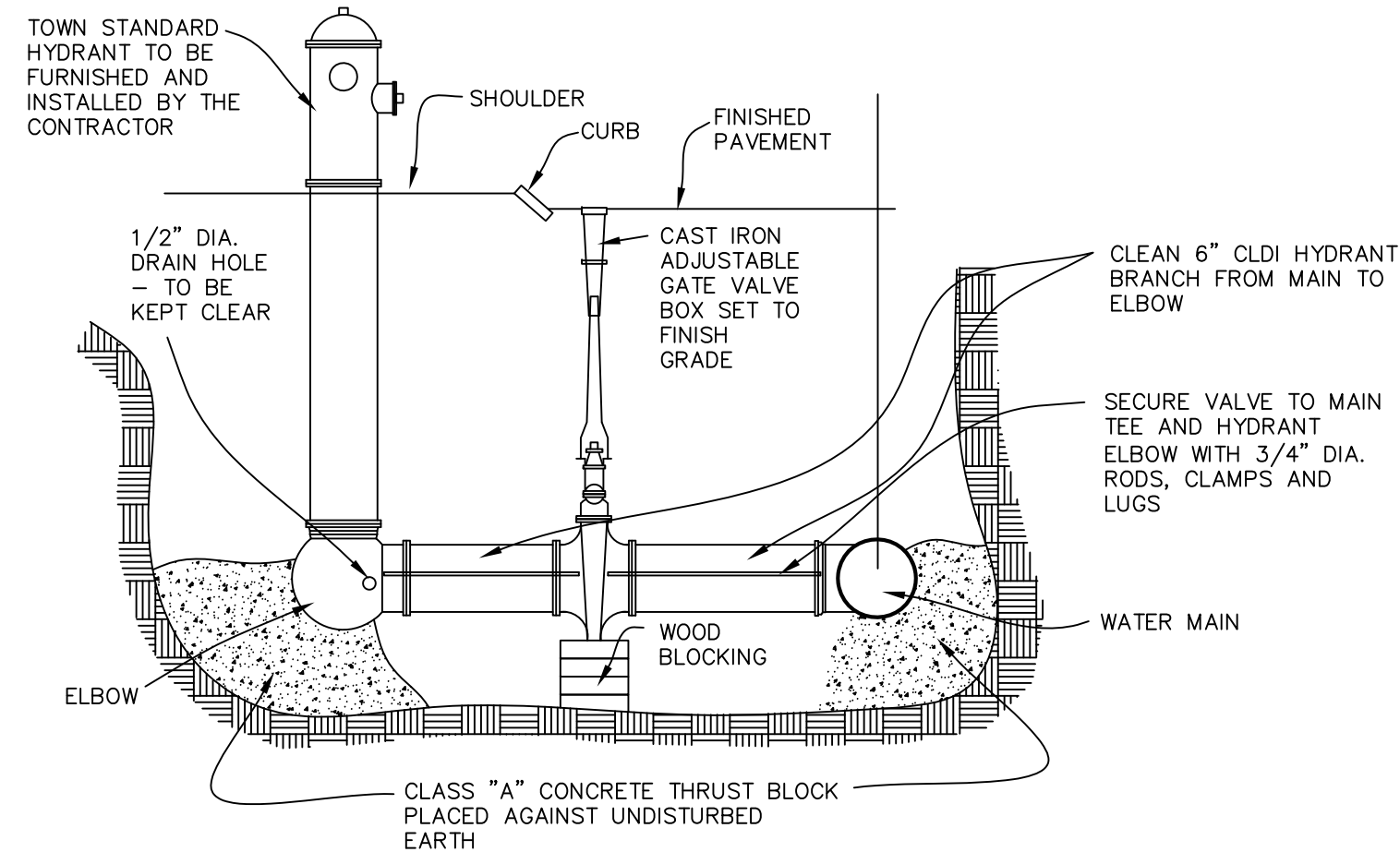
THRUST BLOCK BEARING AREAS FOR PIPE

TABLE OF BEARING AREAS IN SQUARE FEET AGAINST UNDISTURBED MATERIAL FOR PIPE FITTINGS\*

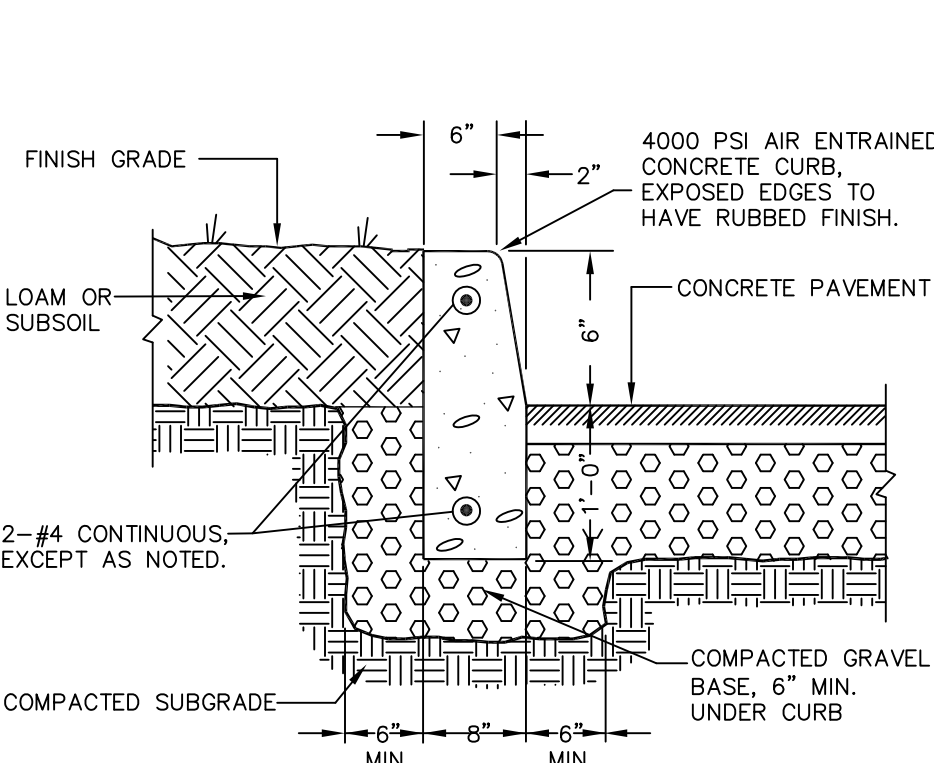
SIZE OF WATER MAIN IN INCHES	90° BEND	45° BEND
6"	4 SF	2 SF
8"	6 SF	3 SF
12"	12 SF	7 SF
16"	21 SF	12 SF

- \* THIS TABLE IS BASED ON A TYPE OF SOIL THAT IS MEDIUM CLAYEY 6 OR MORE BLOW/FT., OR LOOSE GRANULAR, 9 OR MORE BLOWS/FT. SOIL CONDITIONS OTHER THAN THOSE GIVEN WILL REQUIRE LARGER BEARING AREAS.
- NOTES:
1. FOR FITTINGS WITH LESS THAN 45° DEFLECTION USE BEARING AREAS FOR 45° BEND.
  2. BEARING AREAS BASED ON HORIZONTAL PASSIVE SOIL PRESSURE OF 2000 PSI AND INTERNAL WATER PRESSURE OF 150 PSIG JOINTS SHALL NOT BE ENCASED IN CONCRETE. BEARING AREAS MAY BE DISREGARDED FOR TRENCHES IN ROCK WHERE THE TOP OF THE ROCK FACE IS AT OR ABOVE THE CROWN OF THE PIPE. HOWEVER, CONCRETE BACKING SHALL BE PLACED BETWEEN THE PIPE AND THE ROCK FACE.
  3. THE CONTRACTOR SHALL SUBMIT 2 WEEKS IN ADVANCE OF PLACEMENT, WORKING DRAWINGS FOR EACH THRUST BLOCK TO THE WATER DEPARTMENT FOR APPROVAL PRIOR TO INSTALLATION.

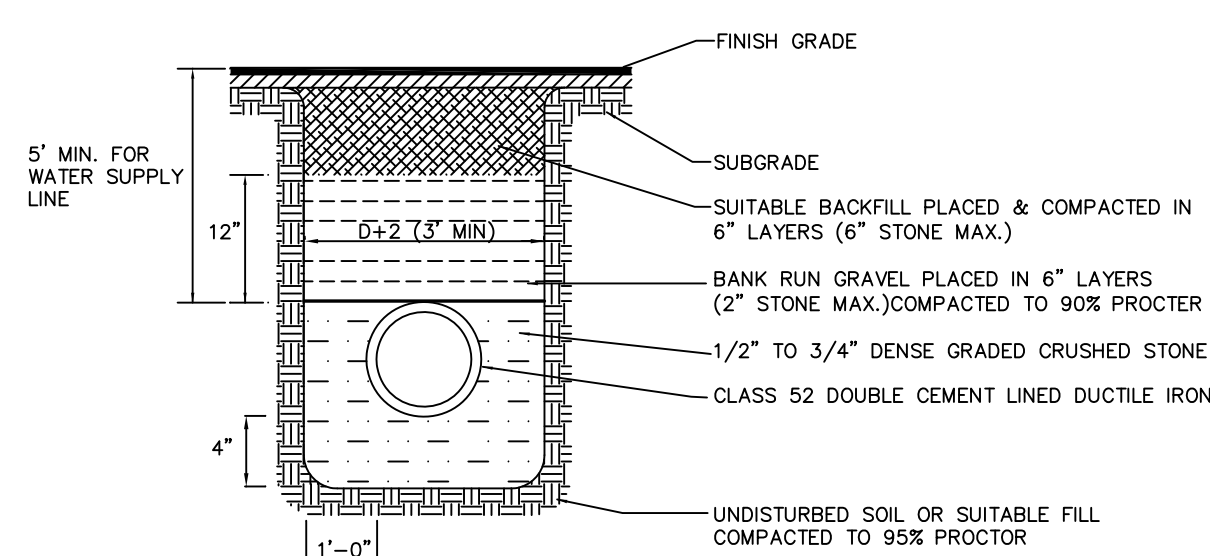
**DUCTILE IRON WATER PIPE THRUST BLOCK**  
NOT TO SCALE



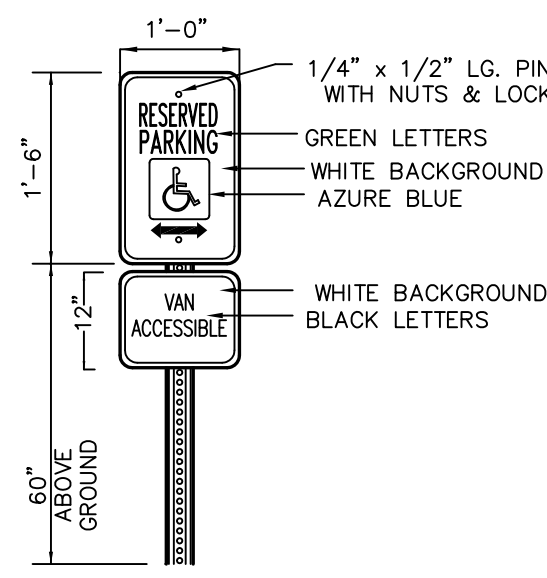
**FIRE HYDRANT**  
NOT TO SCALE



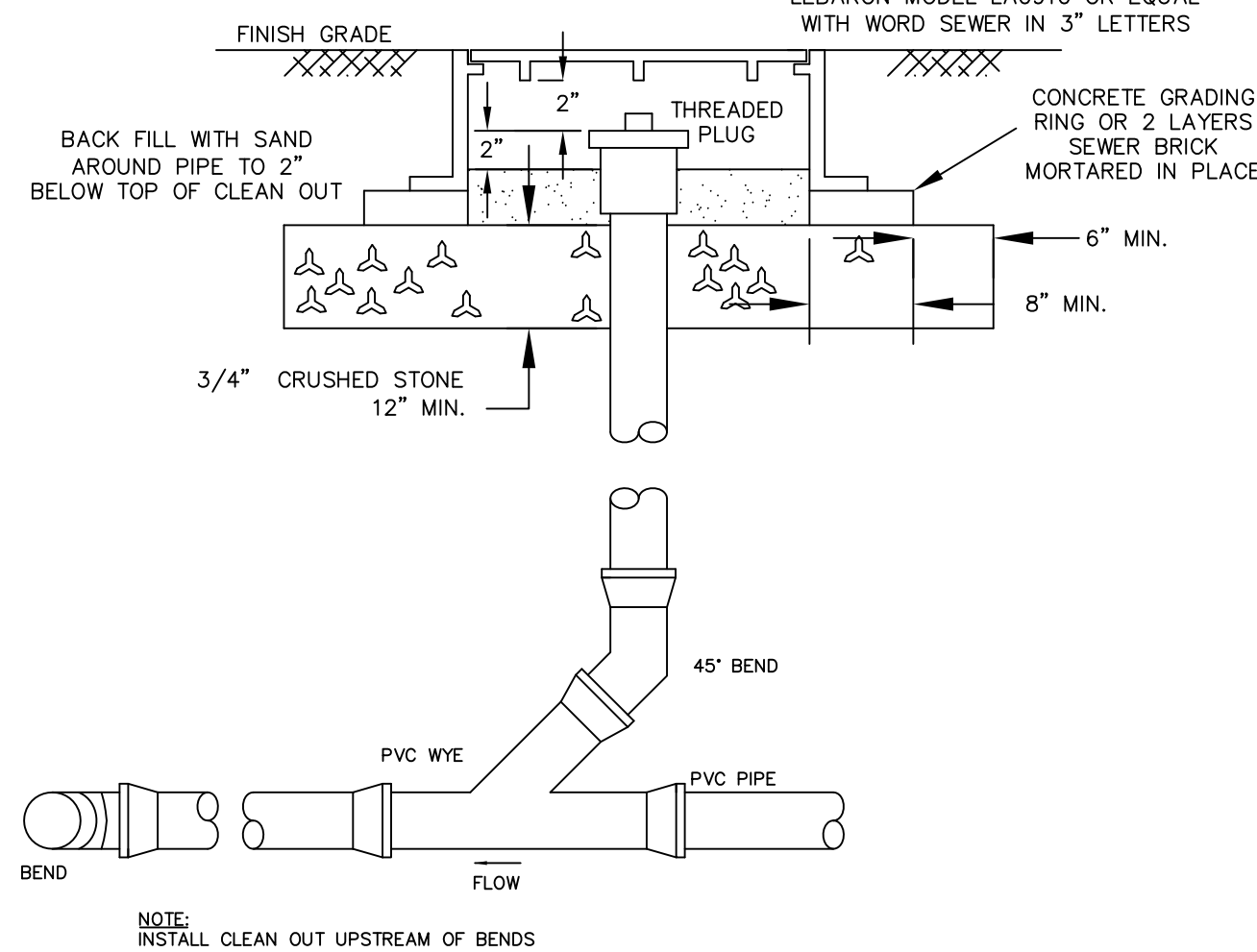
**TYPICAL PRECAST CONCRETE CURB**  
(NOT TO SCALE)



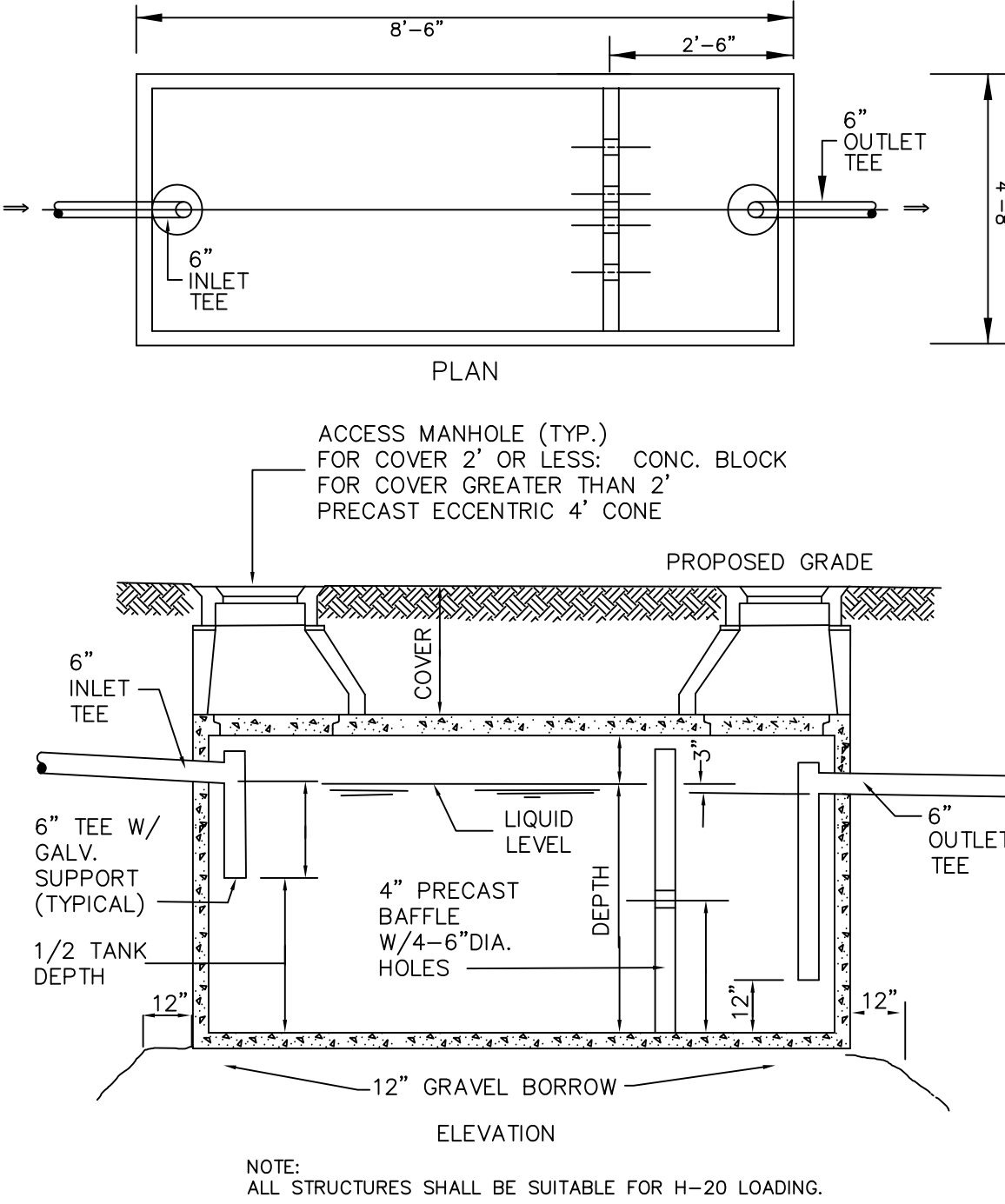
**DUCTILE IRON WATER PIPE TRENCH CROSS SECTION**  
(NOT TO SCALE)



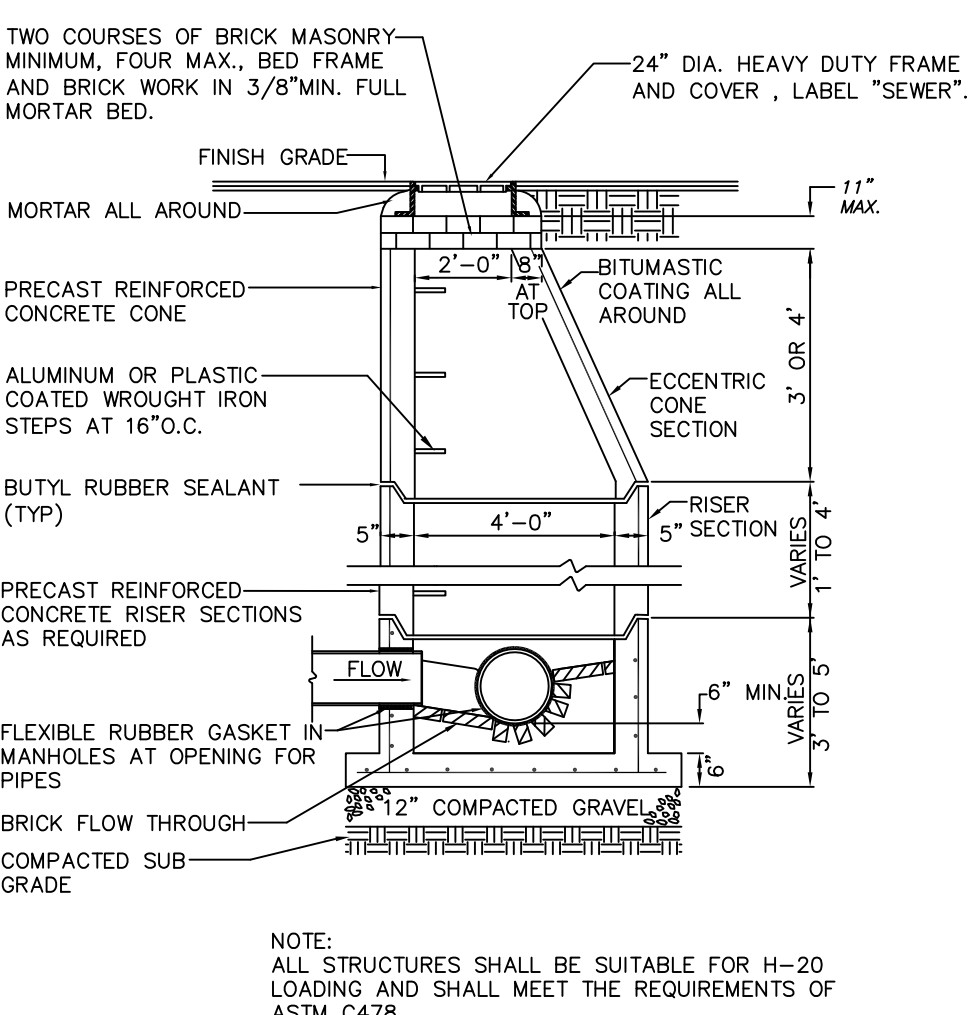
**HANDICAP PARKING SIGN**  
(NOT TO SCALE)



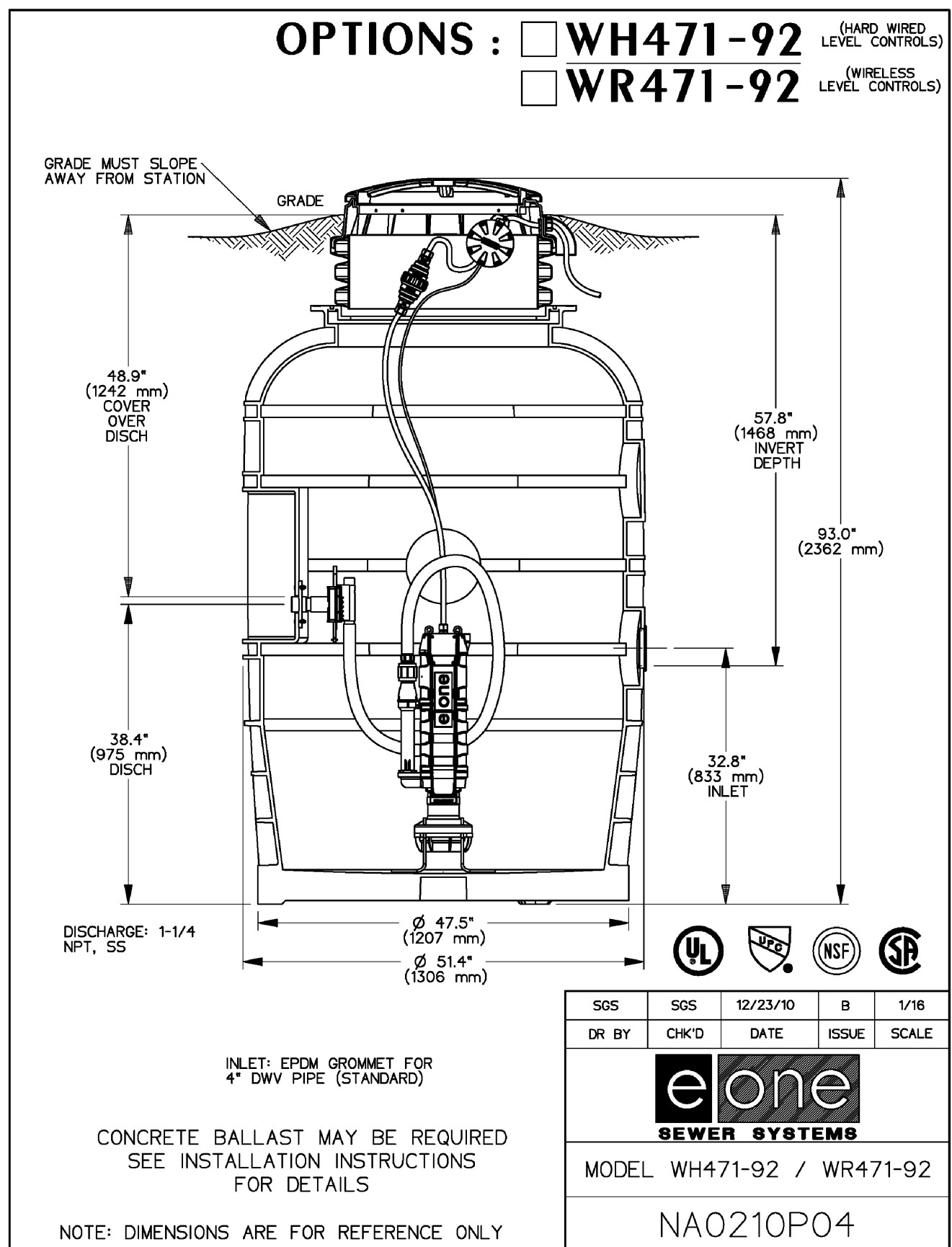
**SEWER CLEAN OUT**  
NOT TO SCALE



**1,000 GALLON GREASE TRAP**  
NOT TO SCALE



**PRE-CAST CONCRETE SEWER MANHOLE**  
NOT TO SCALE



**SEWER GRINDER PUMP STATION**  
NOT TO SCALE

LOCUS REFERENCES  
ASSESSORS PARCEL: 18-8.1  
#1603 MAIN STREET  
OWNER: LEICESTER MAIN, LLC  
LAND COURT CERT. 16956  
LAND COURT PLAN 40185-B, LOT 1  
2.83 Acres

ASSESSORS PARCEL: 18A-14 & 15  
0 & #1605 MAIN STREET  
OWNER: LEICESTER MAIN, LLC  
DEED BOOK 41309, PAGE 153  
1.05 Acres

LOCUS LOTS ARE LOCATED WITHIN THE HIGHWAY BUSINESS-INDUSTRIAL 1 DISTRICT.

NOTES  
1. THIS PLAN IS BASED ON A FIELD SURVEY PERFORMED BY ODORE SURVEY & MAPPING IN DECEMBER 2012, AND UPDATED BY ALLEN ENGINEERING & ASSOCIATES, INC. IN DECEMBER 2020.

2. ELEVATIONS REFER TO NAD 88 VERTICAL DATUM.
3. THE SITE FALLS WITHIN A FLOOD ZONE X (AREA OF MINIMAL FLOOD HAZARD) ACCORDING TO FLOOD INSURANCE RATE MAP PANEL NUMBER 25027C0780E.
4. THIS SITE DOES NOT CONTAIN CERTIFIED VERNAL POOLS OR HABITATS OF RARE SPECIES ACCORDING TO THE MASSACHUSETTS NATURAL HERITAGE WEB SITE AS OF DECEMBER 2020.
5. EXISTING UTILITY LINES SHOWN ON THESE DRAWINGS ARE BASED ON AVAILABLE RECORD INFORMATION OF UTILITY COMPANIES AND PUBLIC AGENCIES AND ARE APPROXIMATE ONLY. EXISTING UTILITY LINES OTHER THAN THOSE SHOWN MAY BE ON THE SITE. CALL "DIG SAFE" AT 811.
6. THERE SHALL BE NO USE OF FILL CONTAINING HAZARDOUS MATERIALS.
7. APPLICANT SHALL PROVIDE CONSTRUCTION DRAWINGS FOR UNDERGROUND STORAGE TANKS WITH APPLICATION FOR BUILDING PERMIT. DEPTH OF LEDGE/REFUSAL TO BE DETERMINED PRIOR TO DESIGN.



PROFESSIONAL ENGINEER

PREPARED FOR:

Skaft Petroleum, Inc.  
334 Grafton Street,  
Worcester, MA 01604

TITLE:

CONSTRUCTION  
DETAIL PLAN  
For  
#1603 - #1605 Main Street  
In  
Leicester, MA

PREPARED BY:



**ALLEN ENGINEERING & ASSOCIATES, INC.**  
Civil Engineers • Surveyors  
Land Development Consultants  
One Charlesview Road  
Suite 2  
Hopdale, Ma 01747  
(508) 381-3212 • Phone  
www.allenrea.com

SCALE:

AS NOTED

DATE:

September 23, 2021

REVISIONS

#	DATE	DESCRIPTION	INIT
1	11/12/21	PER COMMENTS	BSW

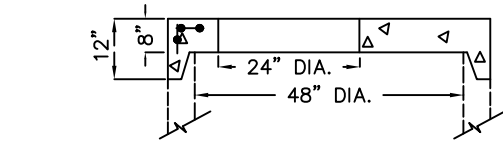
JOB NO:

00047

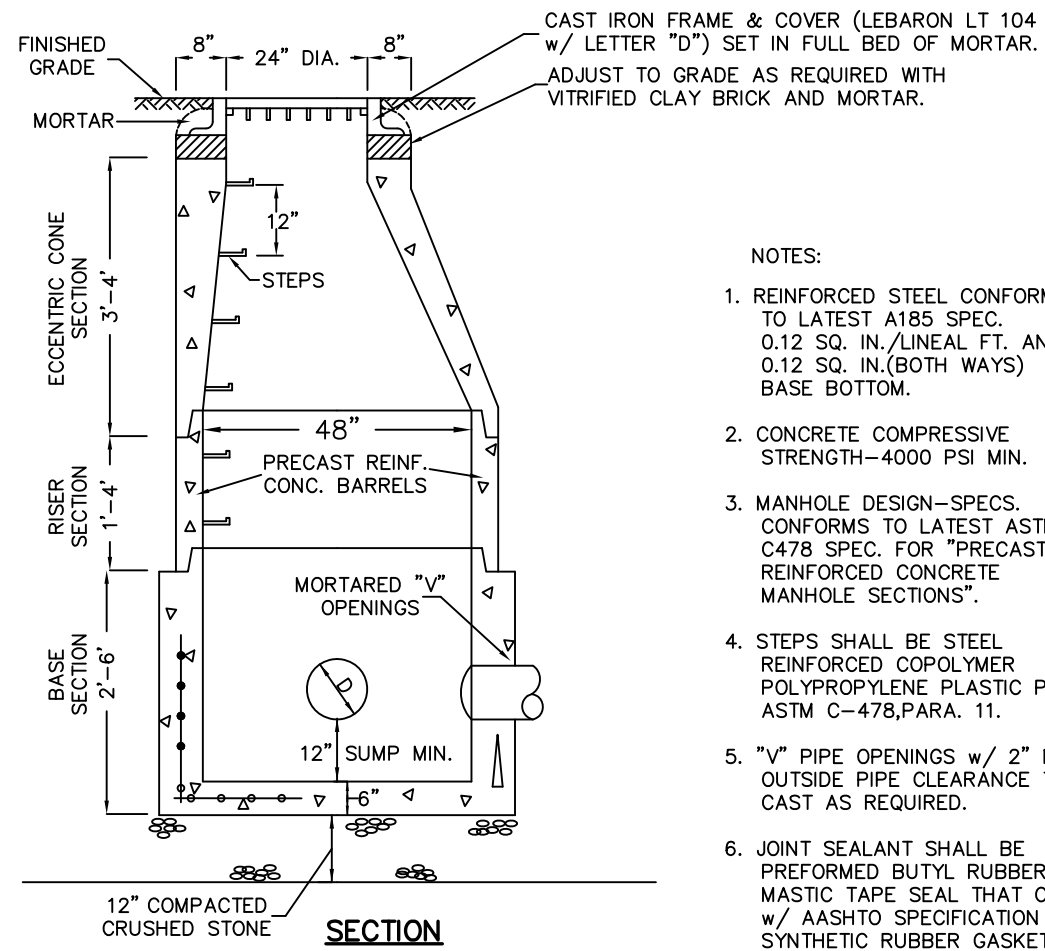
SHEET:

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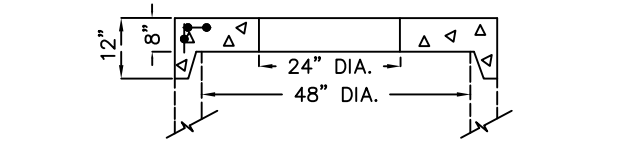


ALTERNATE TOP SLAB FOR SHALLOW CUT  
(STEEL REINFORCED FOR H-20 LOADING)

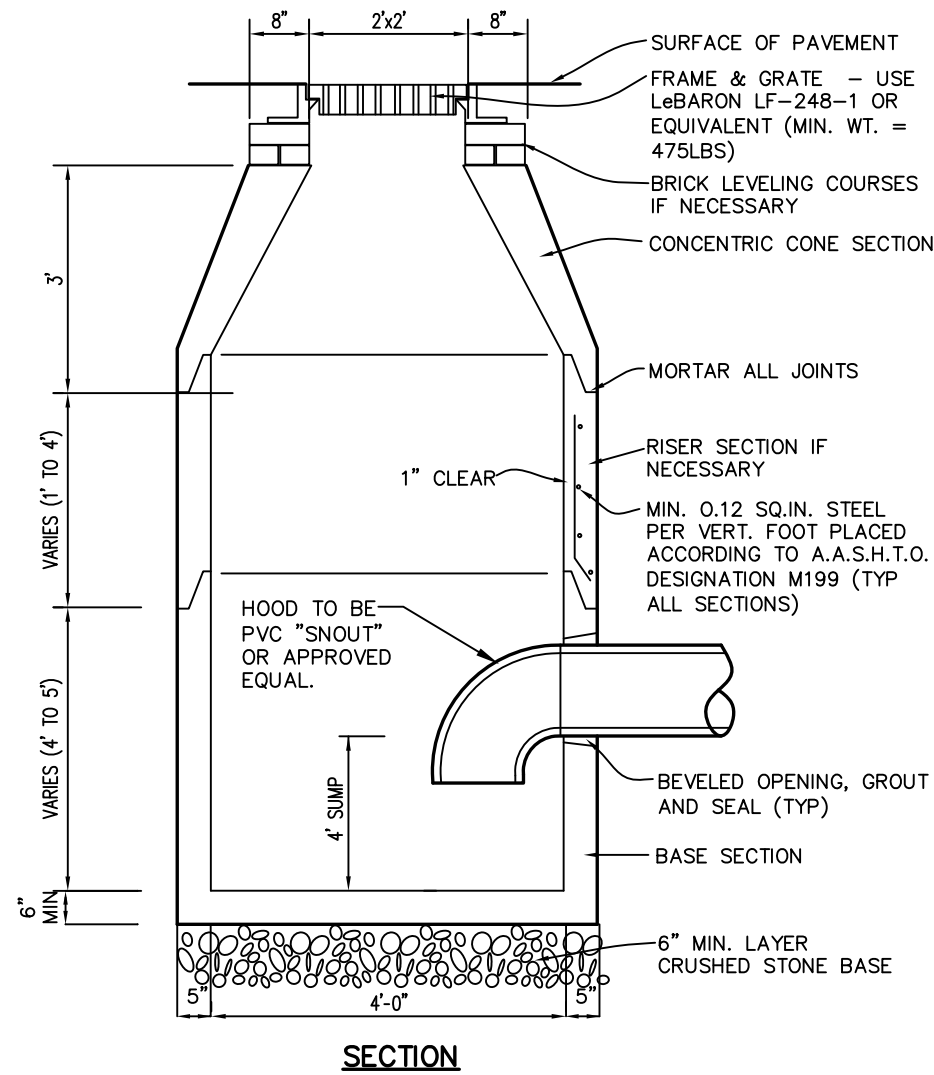


- NOTES:
1. REINFORCED STEEL CONFORMS TO LATEST A185 SPEC. 0.12 SQ. IN./LINEAL FT. AND 0.12 SQ. IN.(BOTH WAYS) BASE BOTTOM.
  2. CONCRETE COMPRESSIVE STRENGTH-4000 PSI MIN.
  3. MANHOLE DESIGN-SPECS. CONFORMS TO LATEST ASTM C478 SPEC. FOR "PRECAST REINFORCED CONCRETE MANHOLE SECTIONS".
  4. STEPS SHALL BE STEEL REINFORCED COPOLYMER POLYPROPYLENE PLASTIC PER ASTM C-478, PARA. 11.
  5. "V" PIPE OPENINGS W/ 2" MAX. OUTSIDE PIPE CLEARANCE TO BE CAST AS REQUIRED.
  6. JOINT SEALANT SHALL BE PREFORMED BUTYL RUBBER MASTIC TAPE SEAL THAT COMPLIES W/ AASHTO SPECIFICATION M-198 OR SYNTHETIC RUBBER GASKET THAT COMPLIES W/ C-443 OR C-361.
  7. BASE SECTION SHALL BE ONE POUR MONOLITHIC.

PRECAST CONCRETE DRAIN MANHOLE  
(NOT TO SCALE)

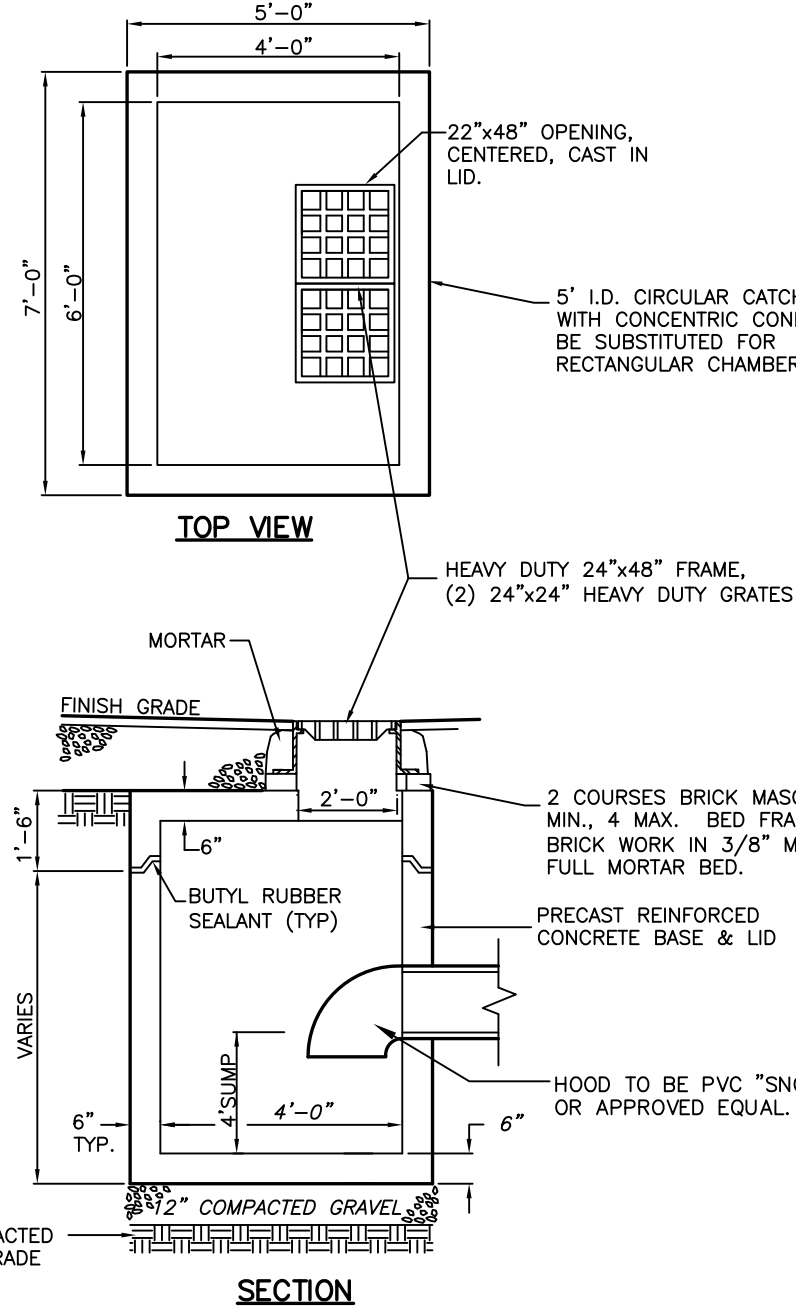


ALTERNATE TOP SLAB FOR SHALLOW CUT  
(STEEL REINFORCED FOR H-20 LOADING)



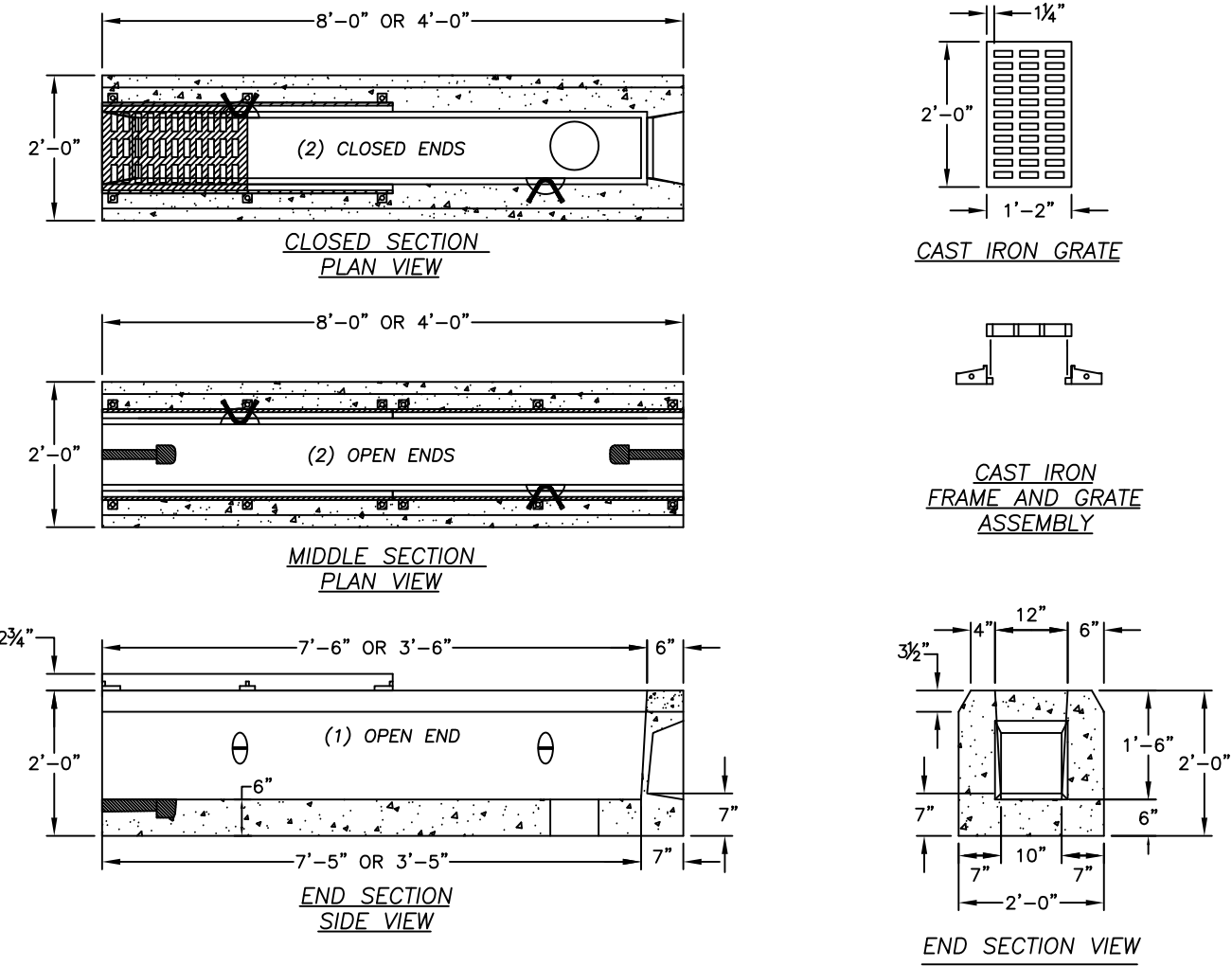
- NOTES:
1. PIPE OPENINGS TO BE PRECAST IN CATCH BASIN SECTIONS.
  2. SURFACE OF FRAME AND GRATE TO SLOPE DOWN 1" FROM FRONT TO BACK.
  3. FACE OF PIPE TO BE FLUSH OR NOT TO PROJECT MORE THAN 4" FROM FACE OF WALL ALONG CENTERLINE OF PIPE.

PRECAST CONCRETE CATCH BASIN  
(NOT TO SCALE)



- NOTE:
- ALL STRUCTURES SHALL BE SUITABLE FOR H-20 LOADING AND SHALL MEET THE REQUIREMENTS OF ASTM C478.

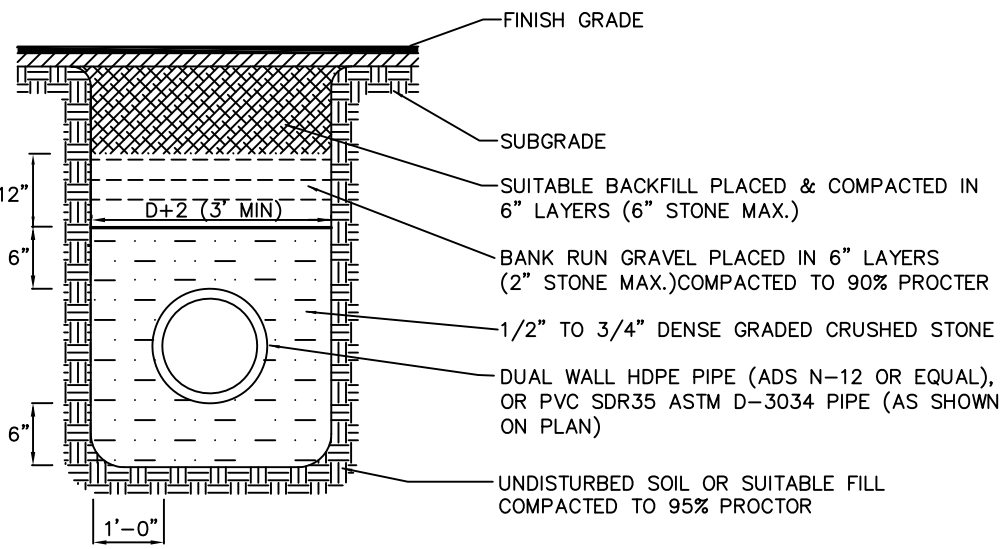
DOUBLE GRATE CATCH BASIN  
(NOT TO SCALE)



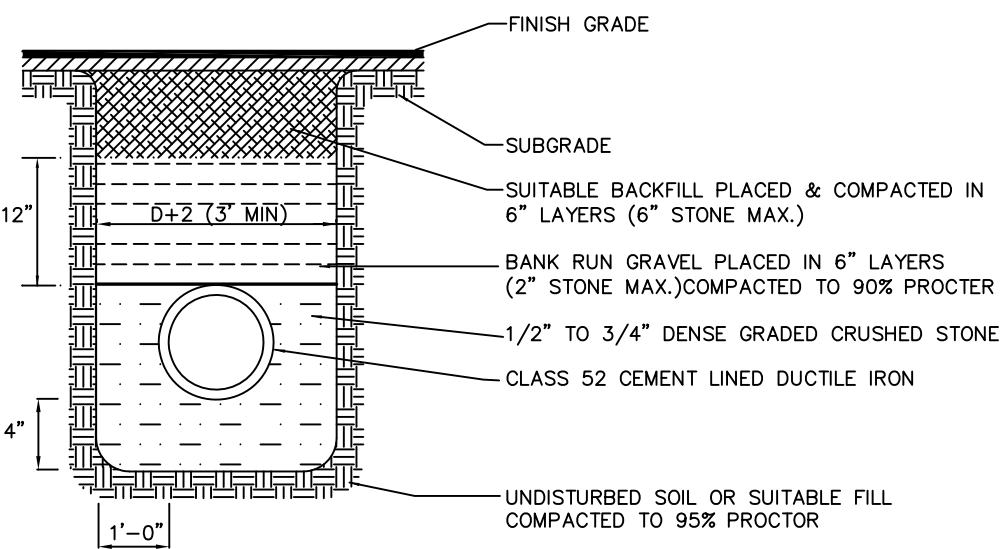
SHEA CONCRETE PRODUCTS 12" X 18" TRENCH DRAIN  
OR APPROVED EQUAL

- NOTES:
1. MINIMUM CONCRETE COMPRESSIVE STRENGTH: 4,000 PSI AFTER 28 DAYS.
  2. REINFORCING STEEL #615 GRAD 60 BLACK DEFORMED BARS
  3. AVAILABLE IN 4' AND 8' SECTIONS.
  4. AVAILABLE IN CENTER, END OR MIDDLE SECTIONS.
  5. DESIGNED FOR AASHTO H5-20 LOADING.
  6. GRATING TO BE ATTACHED BY CONTRACTOR.
  7. END KNOCK OUTS SIZED FOR MAXIMUM #8" PIPE.
  8. SLOPED FLOOR IF REQUIRED TO BE INSTALLED BY OTHERS AFTER INSTALLATION.

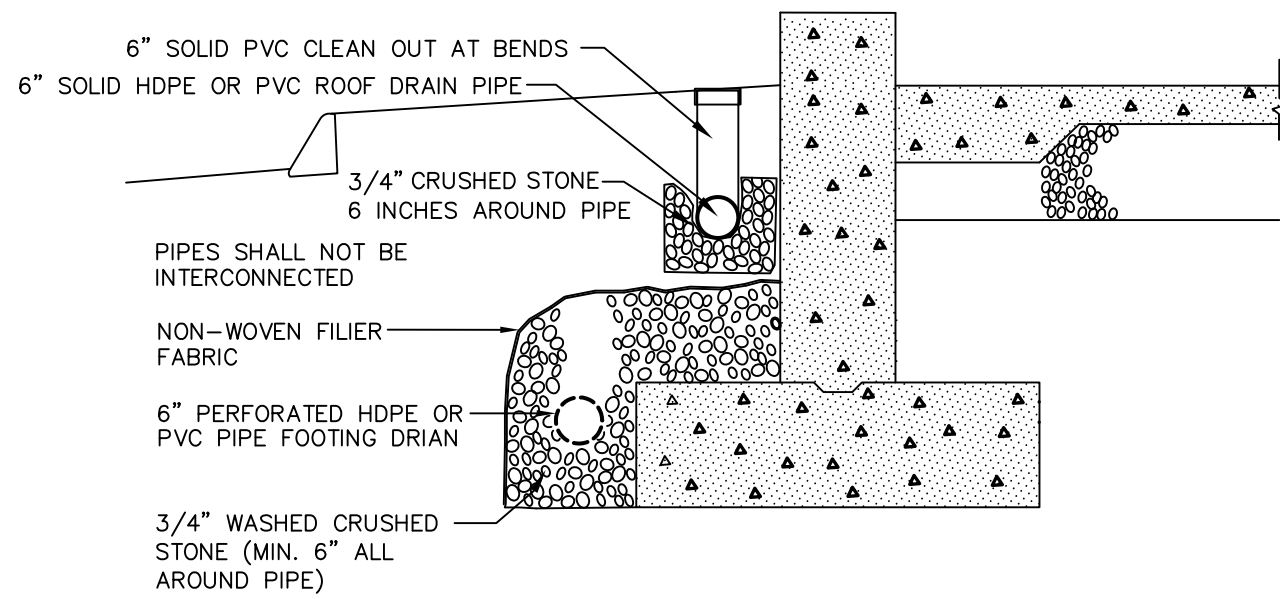
TRENCH DRAIN  
(NOT TO SCALE)



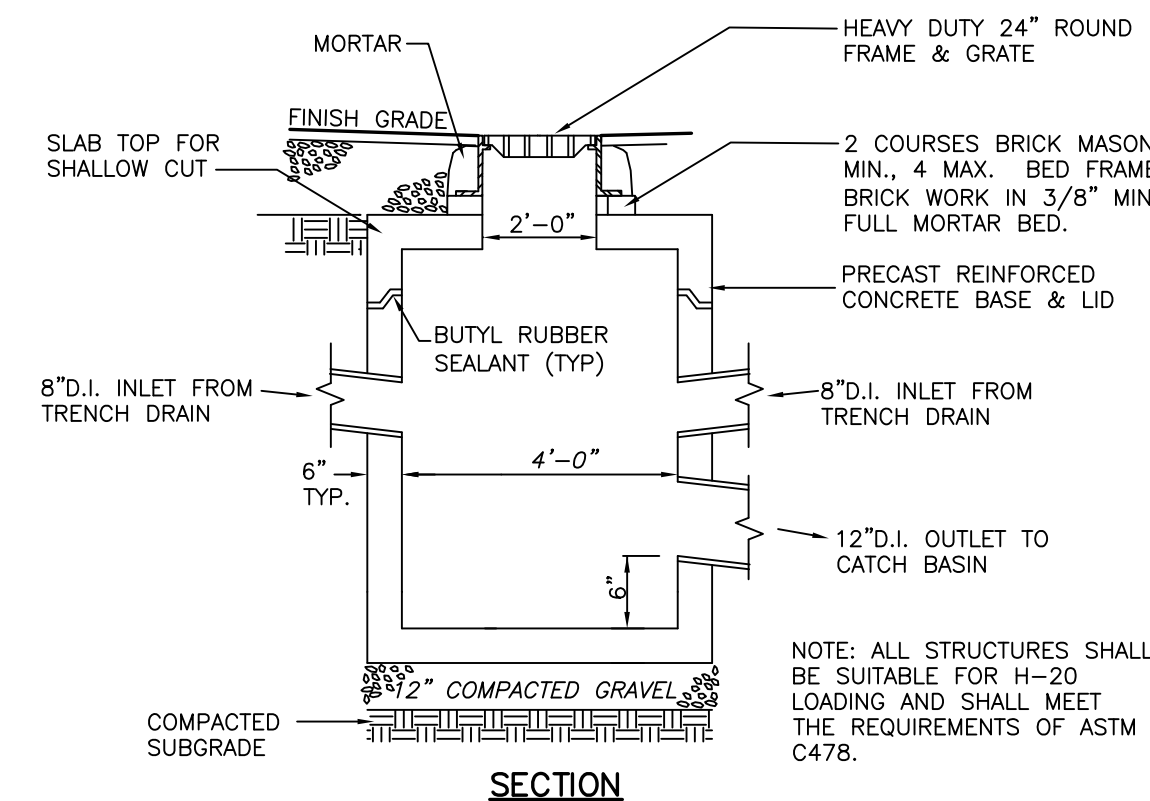
HDPE/PVC PIPE  
TRENCH CROSS SECTION  
(NOT TO SCALE)



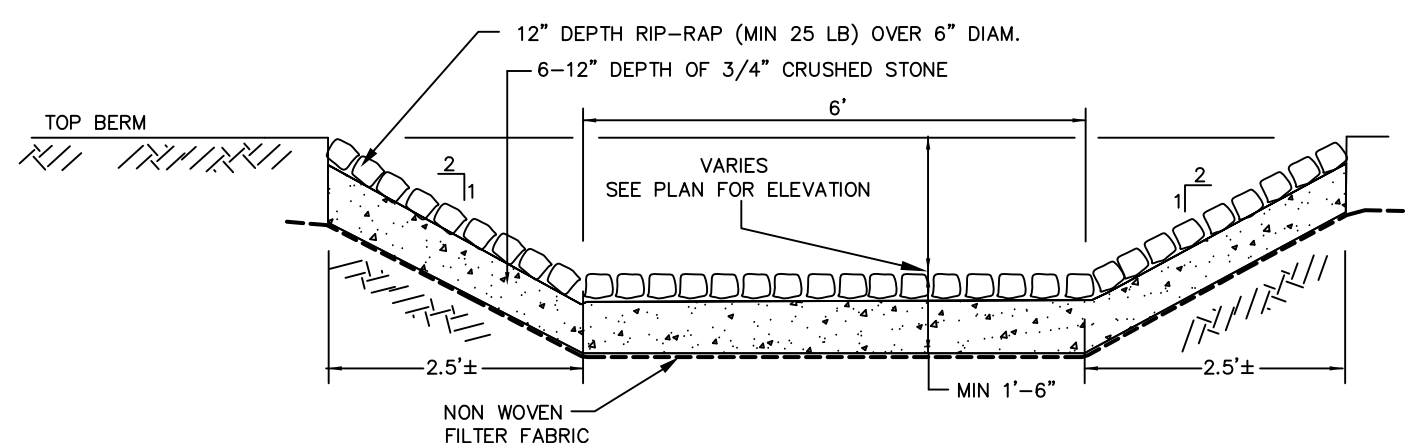
DUCTILE IRON DRAIN PIPE  
TRENCH CROSS SECTION  
(NOT TO SCALE)



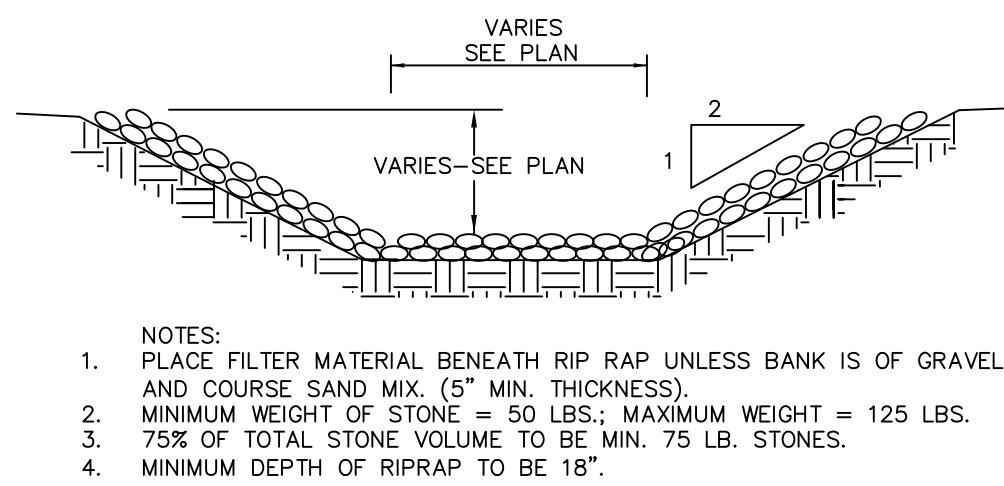
TYPICAL SECTION-ROOF DRAIN & FOOTING DRAIN  
(NOT TO SCALE)



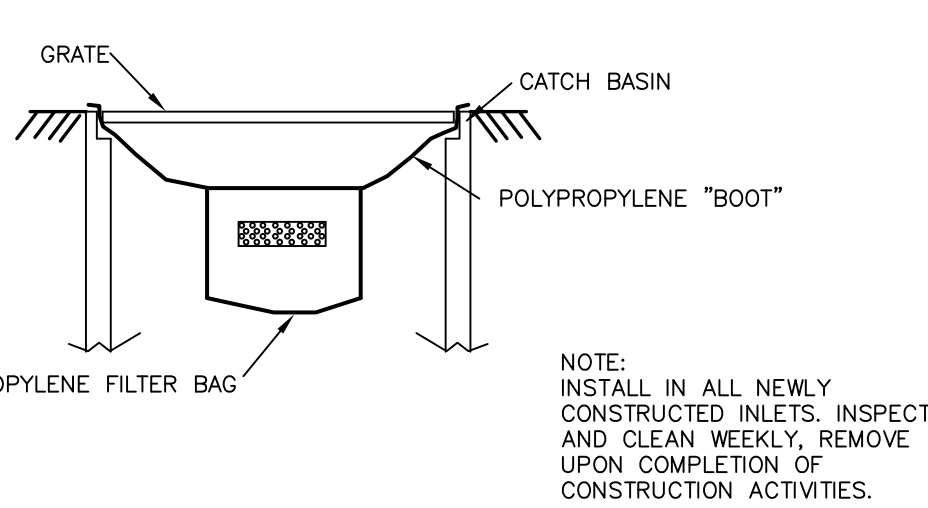
DROP INLET  
(NOT TO SCALE)



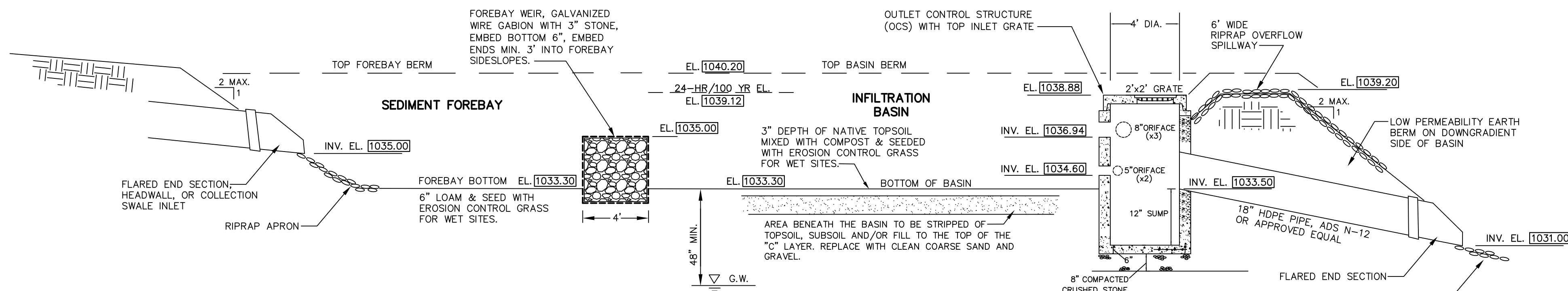
INFILTRATION BASIN  
RIPRAP OVERFLOW SPILLWAY  
(NOT TO SCALE)



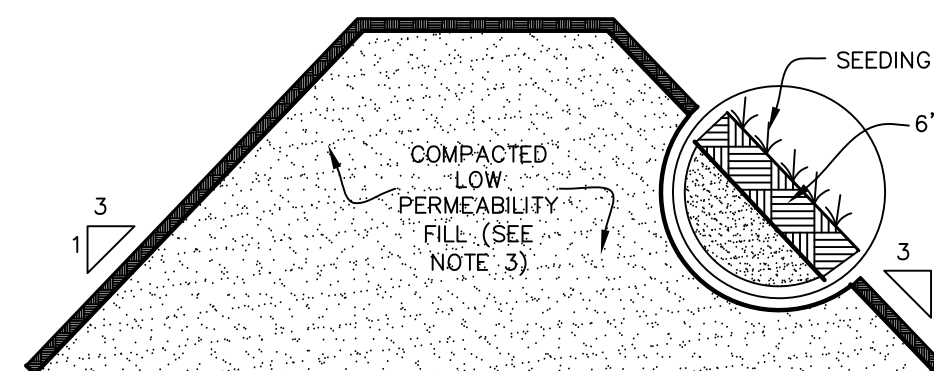
RIPRAP APRON  
FOR PIPE ENDS  
(NOT TO SCALE)



CATCH BASIN SEDIMENT  
FILTER INSERT  
(NOT TO SCALE)



STORMWATER SEDIMENT FOREBAY & INFILTRATION BASIN  
(NOT TO SCALE)



LOW PERMEABILITY EARTH BERM - SECTION  
NOT TO SCALE

- NOTES:
1. ALL WORK TO BE STAKED AND INSPECTED BY THE DESIGN ENGINEER.
  2. AREA UNDER THE EMBANKMENT AND ANY STRUCTURAL WORKS SHALL BE CLEARED, GRUBBED AND STRIPPED OF TOPSOIL TO REMOVE TREES, VEGETATION, ROOTS OR OTHER OBJECTIONABLE MATERIAL.
  3. COMPACTED LOW PERMEABILITY FILL MATERIAL SHALL BE WELL GRADED, SILTY, GRAVELLY SAND WITH A MINIMUM OF 15% PASSING SIEVE #200, AND SHALL BE FREE OF STONES GREATER THAN 6" IN DIAMETER, ORGANIC MATTER, CONSTRUCTION DEBRIS, SNOW OR FROZEN SOIL. MATERIALS SHALL BE PLACED IN LAYERS NOT EXCEEDING 8" IN THICKNESS, AND SHALL BE COMPACTED BY CONTINUOUS PASSES OF HEAVY DOZERS, HAULING EQUIPMENT AND APPROPRIATE COMPACTORS. MINIMUM DEGREE OF COMPACTION SHALL BE 95% OF MAXIMUM DRY DENSITY AS SPECIFIED BY A.S.T.M. D 1556 C.
  4. THE EMBANKMENT WILL BE CONSTRUCTED TO THE DESIGN ELEVATION PLUS 0.5 FT. TO ALLOW FOR SETTLEMENT.
  5. S.C.S. APPROVED SEED MIX TO BE SPREAD AS SOON AS IS PRACTICAL TO MINIMIZE EROSION.

LOCUS REFERENCES  
ASSESSORS PARCEL: 18-8.1  
#1603 MAIN STREET  
OWNER: LEICESTER MAIN, LLC  
LAND COURT CERT. 16956  
LAND COURT PLAN 40185-B, LOT 1  
2.83 Acres

ASSESSORS PARCEL: 18A-14 & 15  
0 & #1605 MAIN STREET  
OWNER: LEICESTER MAIN, LLC  
DEED BOOK 41309, PAGE 153  
1.05 Acres

LOCUS LOTS ARE LOCATED WITHIN THE  
HIGHWAY BUSINESS-INDUSTRIAL 1  
DISTRICT.

NOTES  
1. THIS PLAN IS BASED ON A FIELD  
SURVEY PERFORMED BY ODORE SURVEY  
& MAPPING IN DECEMBER 2012, AND  
UPDATED BY ALLEN ENGINEERING &  
ASSOCIATES, INC. IN DECEMBER 2020.

2. ELEVATIONS REFER TO NAD 88  
VERTICAL DATUM.

3. THE SITE FALLS WITHIN A FLOOD  
ZONE X (AREA OF MINIMAL FLOOD  
HAZARD) ACCORDING TO FLOOD  
INSURANCE RATE MAP PANEL NUMBER  
25027C0780E.

4. THIS SITE DOES NOT CONTAIN  
CERTIFIED VERNAL POOLS OR HABITATS  
OF RARE SPECIES ACCORDING TO THE  
MASSACHUSETTS NATURAL HERITAGE  
WEB SITE AS OF DECEMBER 2020.

5. EXISTING UTILITY LINES SHOWN ON  
THESE DRAWINGS ARE BASED ON  
AVAILABLE RECORD INFORMATION OF  
UTILITY COMPANIES AND PUBLIC  
AGENCIES AND ARE APPROXIMATE ONLY.  
EXISTING UTILITY LINES OTHER THAN  
THOSE SHOWN MAY BE ON THE SITE.  
CALL "DIG SAFE" AT 811.

6. THERE SHALL BE NO USE OF FILL  
CONTAINING HAZARDOUS MATERIALS.

7. APPLICANT SHALL PROVIDE  
CONSTRUCTION DRAWINGS FOR  
UNDERGROUND STORAGE TANKS WITH  
APPLICATION FOR BUILDING PERMIT.  
DEPTH OF LEDGE/REFUSAL TO BE  
DETERMINED PRIOR TO DESIGN.



PROFESSIONAL ENGINEER

PREPARED FOR:

Skaff Petroleum, Inc.  
334 Grafton Street,  
Worcester, MA 01604

TITLE:

CONSTRUCTION  
DETAIL PLAN

For  
#1603 - #1605 Main Street  
In  
Leicester, MA

PREPARED BY:



ALLEN ENGINEERING  
& ASSOCIATES, INC.

Civil Engineers • Surveyors  
Land Development Consultants

One Charlesview Road  
Suite 2  
Hopedale, Ma 01747  
(508) 381-3212 • Phone  
www.allenrea.com

SCALE: AS NOTED

DATE:

September 23, 2021

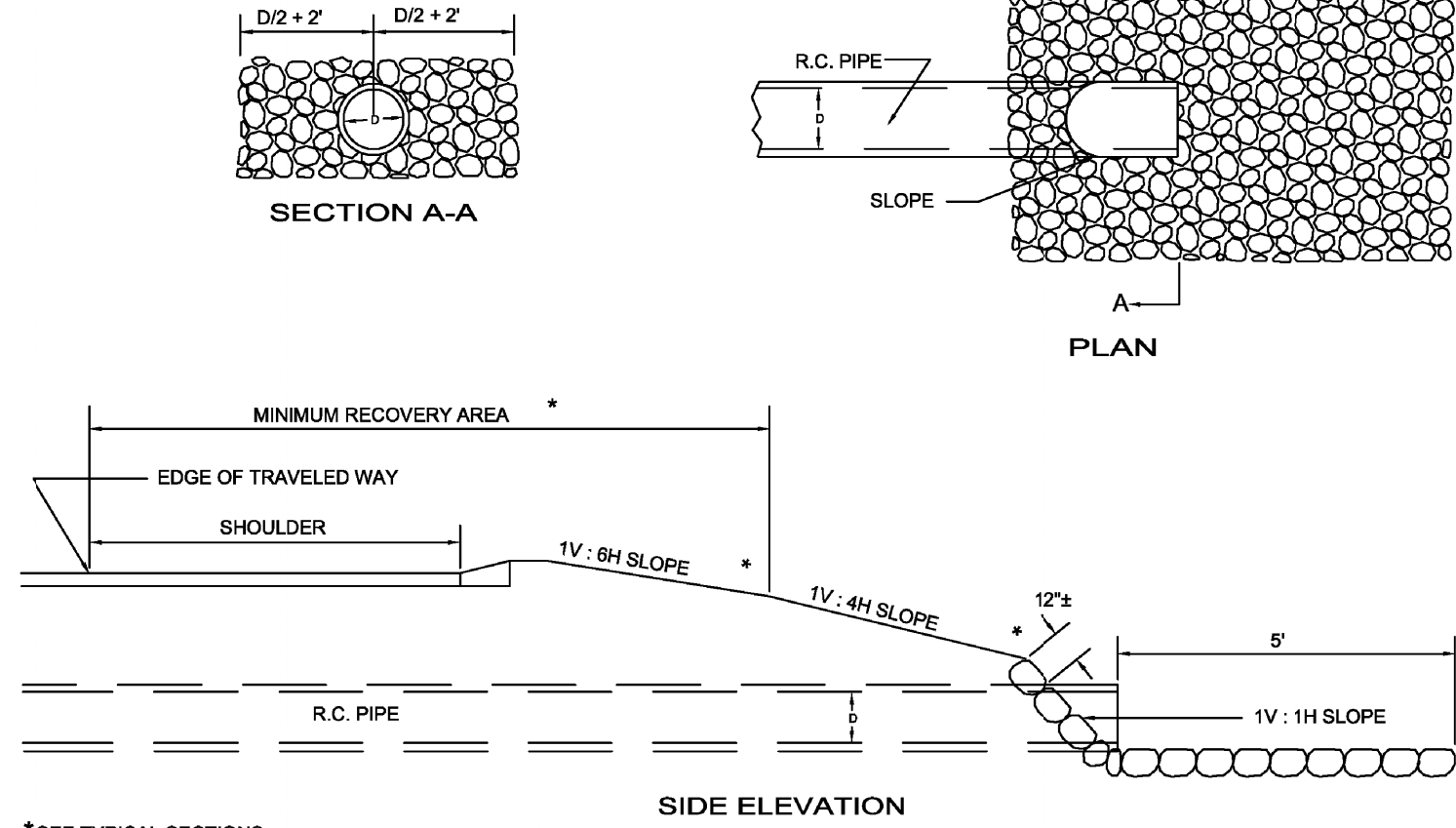
REVISIONS

#	DATE	DESCRIPTION	INIT
1	11/12/21	PER COMMENTS	BSW

JOB NO:  
00047

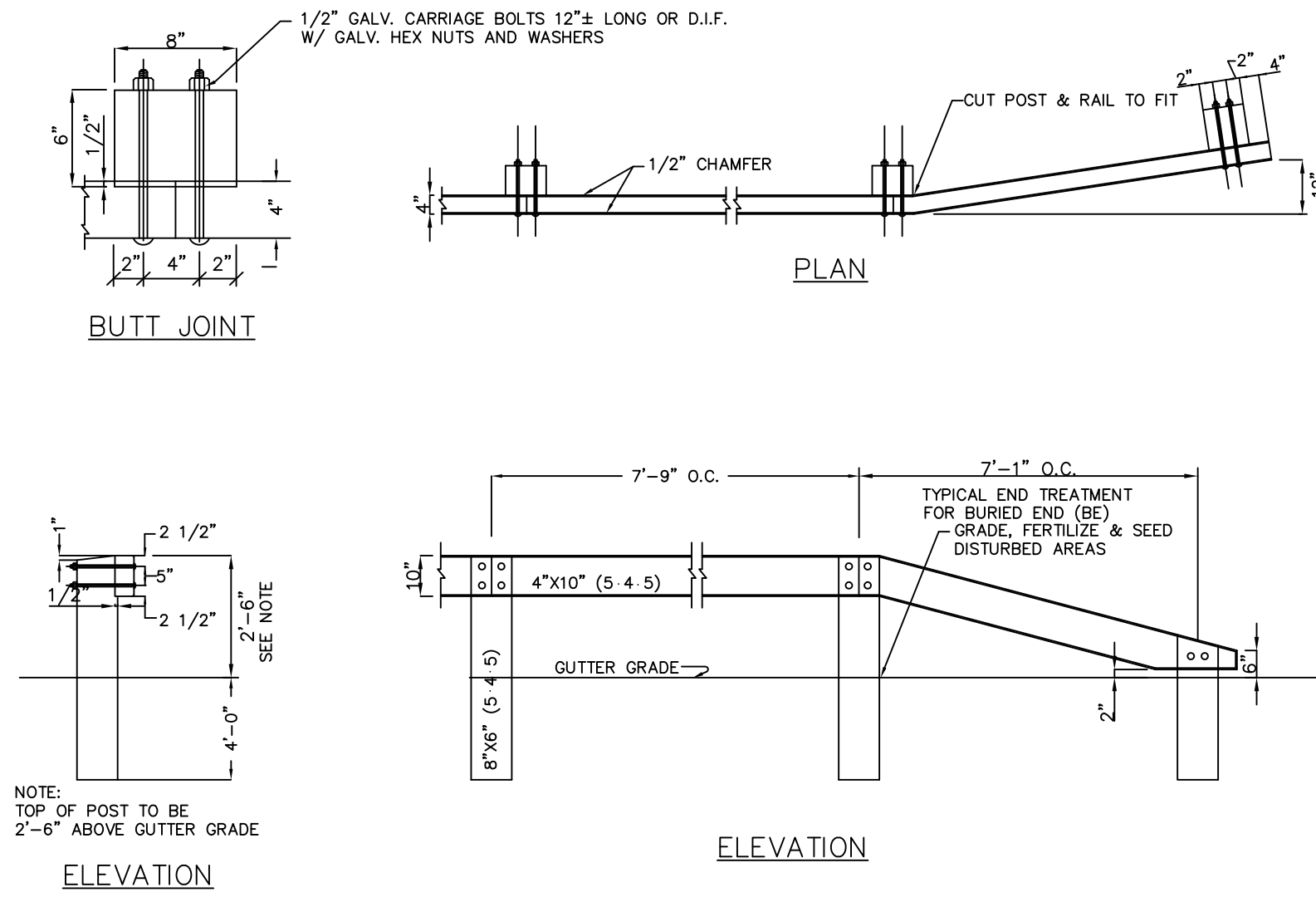
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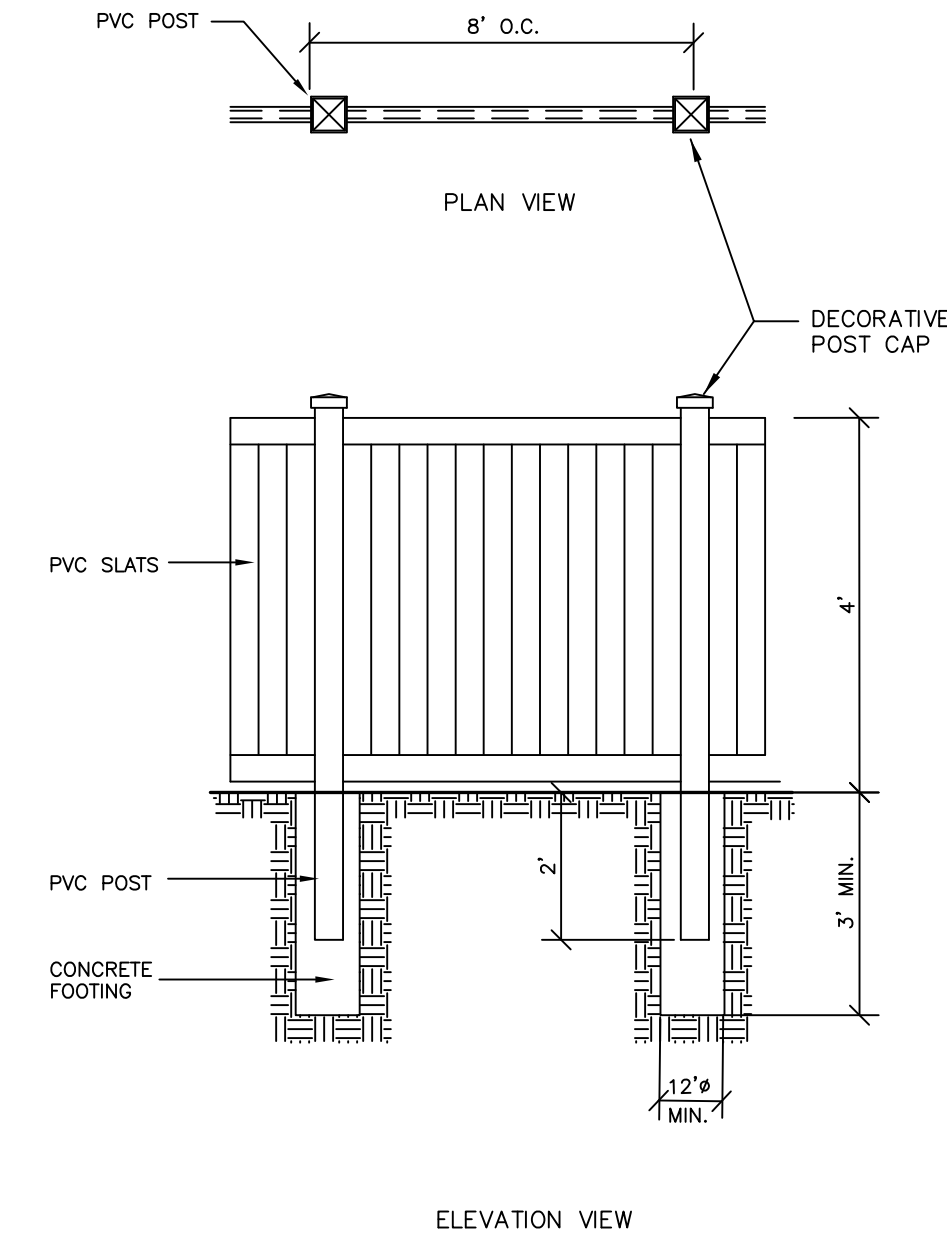
- NOTES:
1. STONE TREATMENT OF PIPE ENDS SHALL NOT BE USED IN THE VEHICLE RECOVERY AREA.
  2. MINIMUM MASS PER STONE = 50 LBS, MAXIMUM MASS PER STONE = 125 LBS.
  3. FOR DESCRIPTION, MATERIALS AND CONSTRUCTION METHODS, SEE STANDARD SPECIFICATIONS.

**PIPE END RIPRAP APRON**  
(NOT TO SCALE)



**WOODEN GUARD RAIL**  
(NOT TO SCALE)

- GENERAL NOTES
1. WOOD RAILS TO BE LONGLEAF YELLOW PINE OR DOUGLAS FIR - STRUCTURAL GRADE OR BETTER.
  2. POSTS TO BE DOUGLAS FIR OR SPRUCE - STRUCTURAL GRADE OR BETTER.
  3. TIMBER PRESERVATIVES SHALL CONFORM TO THE REQUIREMENTS OF AASHTO M-133. THE METHODS OF TREATMENT SHALL CONFORM TO AMER. WOOD PRESERVERS ASSN. STANDARDS C1, C2 & C3. ANY CUTS MADE IN FIELD SHALL BE PAINTED W/ 2 BRUSH COATS OF AFOREMENTIONED METHOD OF TREATMENT.
  4. METAL GUARDRAIL CONFORMING TO MASSDOT STANDARD SPECIFICATIONS MAY BE INSTALLED IN LIEU OF WOODEN GUARDRAIL.



- NOTES:
1. INSTALL PER MANUFACTURES RECOMMENDATIONS.
  2. ALL FENCE COMPONENTS TO BE WHITE FINISH.

**OPAQUE PVC FENCE DETAIL**  
(NOT TO SCALE)

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#1603 MAIN STREET  
OWNER: LEICESTER MAIN, LLC  
LAND COURT CERT. 16956  
DEED BOOK 41309, PAGE 153  
1.05 Acres

ASSESSORS PARCEL: 18A-14 & 15  
0 & #1605 MAIN STREET  
OWNER: LEICESTER MAIN, LLC  
DEED BOOK 41309, PAGE 153  
1.05 Acres

LOCUS LOTS ARE LOCATED WITHIN THE HIGHWAY BUSINESS-INDUSTRIAL 1 DISTRICT.

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PROFESSIONAL ENGINEER

PREPARED FOR:

Skaft Petroleum, Inc.  
334 Grafton Street,  
Worcester, MA 01604

TITLE:  
**CONSTRUCTION  
DETAIL PLAN**

For  
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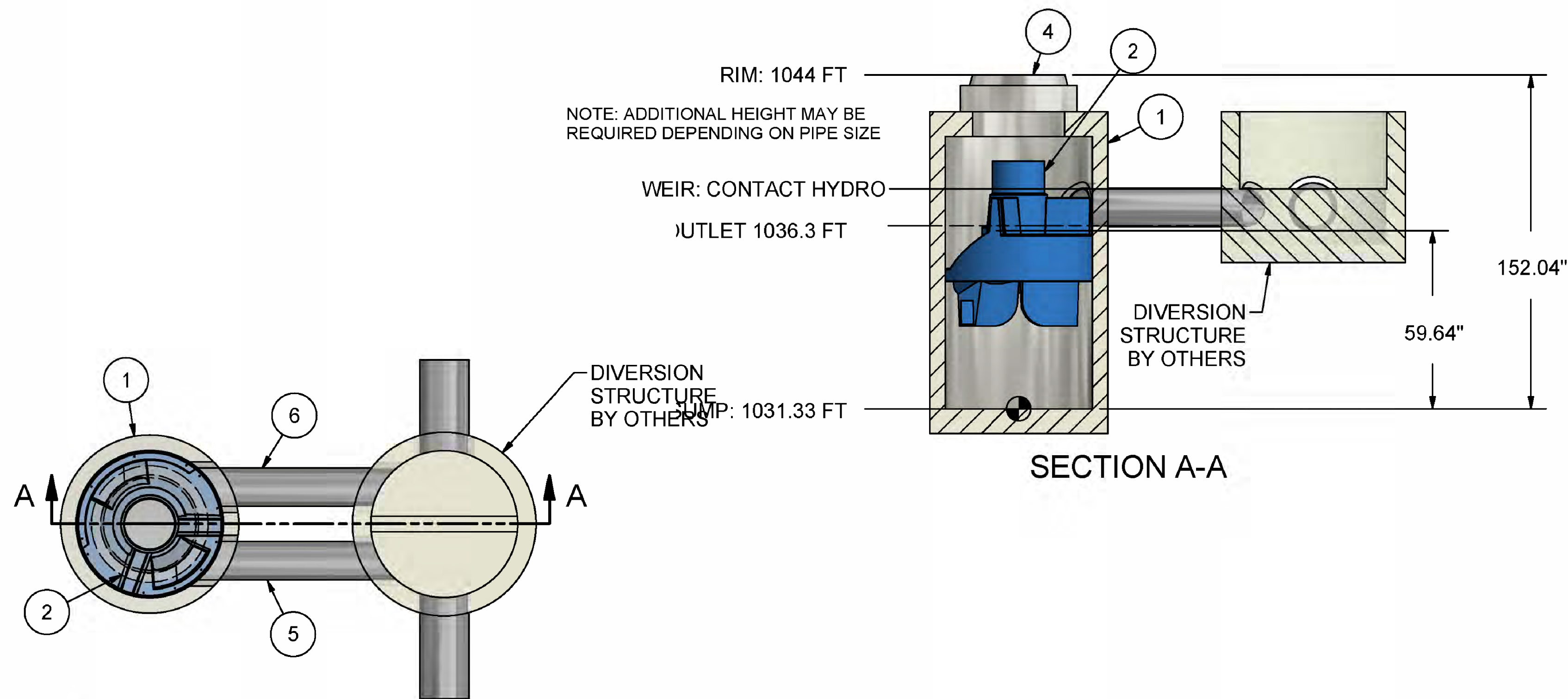
SCALE: AS NOTED

DATE: September 23, 2021

REVISIONS

#	DATE	DESCRIPTION	INIT
1	11/12/21	PER COMMENTS	BSW

JOB NO: 00047 SHEET: 10 of 13

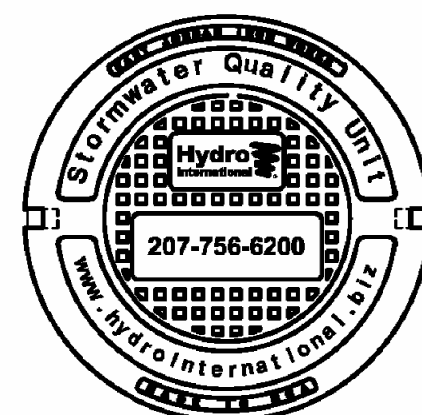


**CAPACITIES:**

1. PEAK HYDRAULIC FLOW: 17.89 cfs
2. SEDIMENT STORAGE CAPACITY: 0.7 yd3
3. OIL STORAGE CAPACITY: 191 gal
4. MAXIMUM INLET/OUTLET PIPE DIAMETERS: 24 in. (600 mm)
5. THE TREATMENT SYSTEM SHALL USE AN INDUCED VORTEX TO SEPARATE POLLUTANTS FROM STORMWATER RUNOFF.

**GENERAL NOTES :**

1. General Arrangement drawings only. Contact Hydro International for site specific drawings.
2. Inlet/outlet pipe angle can vary to align with drainage network (refer to project plans)
3. Peak flow rate and minimum height limited by available cover and pipe diameter.



**HYDRO FRAME AND  
COVER (INCLUDED)**  
GRADE RINGS BY OTHERS  
AS REQUIRED

**NOTE:**

- NOT FOR CONSTRUCTION. CONTACT HYDRO FOR SITE SPECIFIC DETAIL.
- MAX PIPE SIZE MAY NOT BE POSSIBLE IN OFFLINE CONFIGURATION.

PARTS LIST		
ITEM	DESCRIPTION	SIZE (in)
1	I.D. PRECAST MANHOLE	48
2	INTERNAL COMPONENTS (PRE-INSTALLED)	
4	FRAME AND COVER (ROUND)	30
5	OUTLET PIPE(BY OTHERS)	12
6	INLET PIPE(BY OTHERS)	12

WEIGHT: N/A MATERIAL:  
REFERENCE NUMBER: 21\_12\_1395  
DRAWING NO.:  
SHEET SIZE: B SHEET: 1 OF 1 Rev: -

Bruce@Allen-EA.com 4/5/2021

PROJECTION

IF IN DOUBT ASK

COMMENTS:

1. MANHOLE WALL AND SLAB THICKNESSES ARE NOT TO SCALE.

2. CONTRACTOR TO CONFIRM RIM, PIPE INVERTS, PIPE DIA. AND PIPE ORIENTATION PRIOR TO RELEASE OF UNIT TO FABRICATION.

REVISION HISTORY

REV	BY	DESCRIPTION	DATE
-	ER	FIRST RELEASE	

DATE: SCALE: NTS

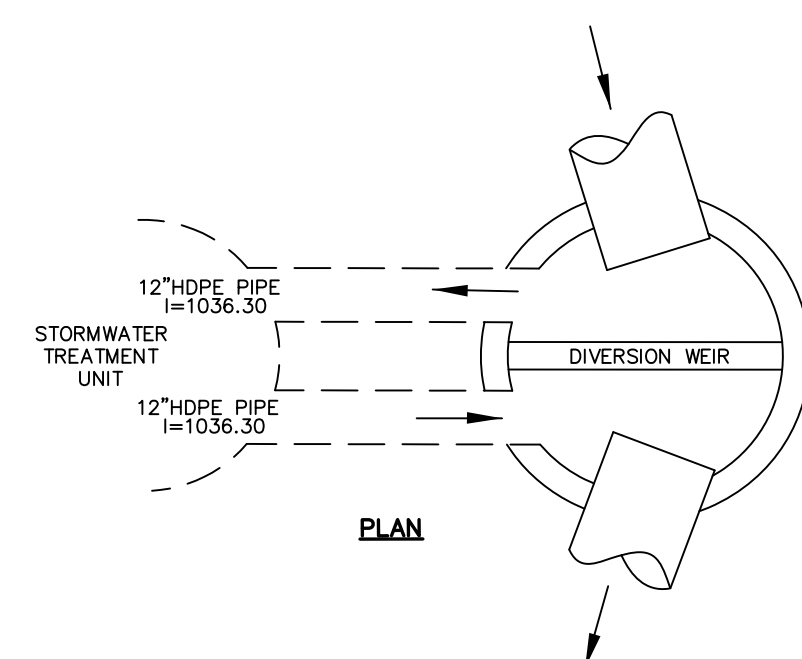
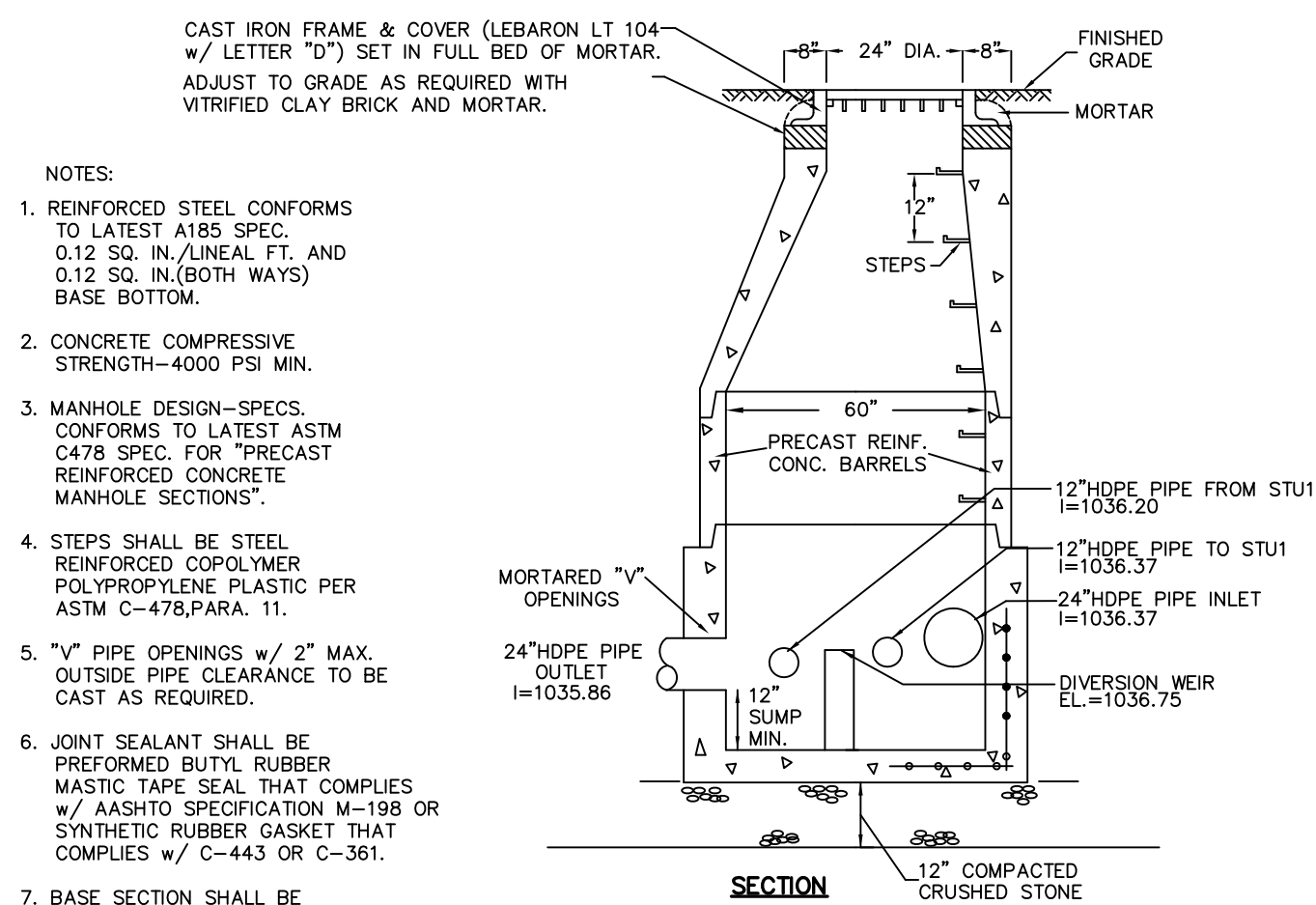
DRAWN BY: ER CHECKED BY: APPROVED BY:

Title  
**4 FT FIRST DEFENSE®  
HIGH CAPACITY**

Site:  
Leicester

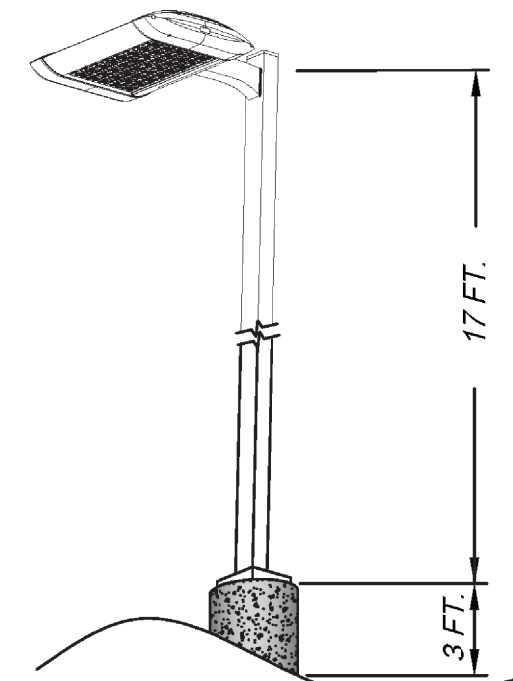
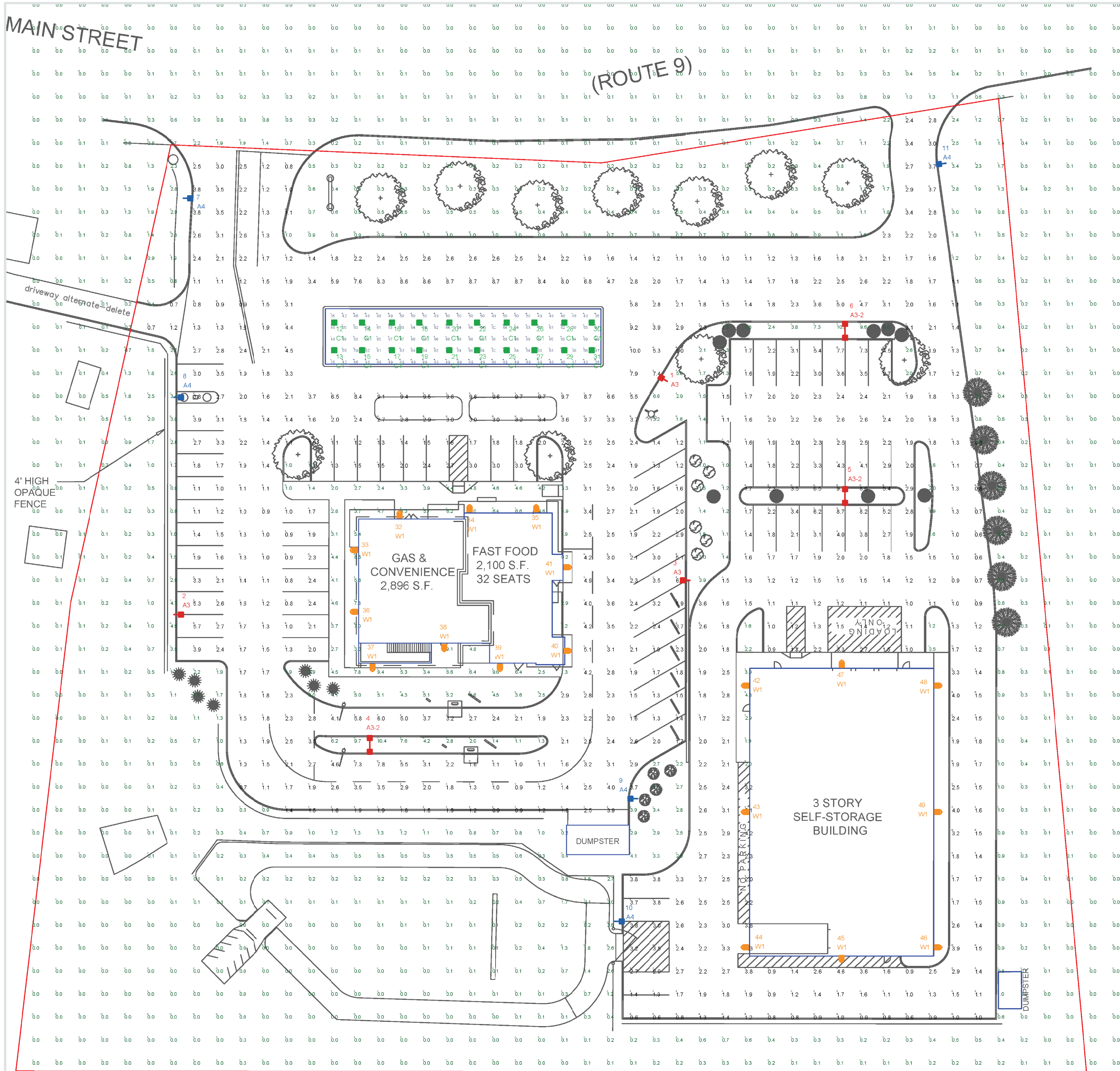
Structure No:  
STU1

**Hydro International**  
hydro-int.com  
HYDRO INTERNATIONAL



**PRECAST CONCRETE DIVERSION MANHOLE**  
(NOT TO SCALE)





NOTE:  
- ALL AREA LIGHTS ON NEW 17 FT. POLES MOUNTED ON 3 FT. CONCRETE BASES

FOOTCANDLE LEVELS CALCULATED AT GRADE USING INITIAL LUMEN VALUES					
LABEL	AVG	MAX	MIN	AVG/MIN	MAX/MIN
CANOPY	56.03	68	35	1.60	1.94
PAVED	2.54	10.0	0.6	4.23	16.67
UNDEFINED	0.60	10.4	0.0	N.A.	N.A.

LUMINAIRE LOCATION SUMMARY		
LUM NO.	LABEL	MTG. HT.
1	A3	20
2	A3	20
3	A3	20
4	A3-2	20
5	A3-2	20
6	A3-2	20
7	A4	20
8	A4	20
9	A4	20
10	A4	20
11	A4	20
12	C1	15
13	C1	15
14	C1	15
15	C1	15
16	C1	15
17	C1	15
18	C1	15
19	C1	15
20	C1	15
21	C1	15
22	C1	15
23	C1	15
24	C1	15
25	C1	15
26	C1	15
27	C1	15
28	C1	15
29	C1	15
30	C1	15
31	C1	15
32	W1	12
33	W1	12
34	W1	12
35	W1	12
36	W1	12
37	W1	12
38	W1	12
39	W1	12
40	W1	12
41	W1	12
42	W1	15
43	W1	15
44	W1	15
45	W1	15
46	W1	15
47	W1	15
48	W1	15
49	W1	15

LUMINAIRE SCHEDULE										
SYMBOL	QTY	LABEL	ARRANGEMENT	LUMENS	LLF	BUG RATING	WATTS/LUMINAIRE	TOTAL WATTS	MANUFACTURER	CATALOG LOGIC
	3	A3	SINGLE	11175	1.030	B2-U0-G2	72	216	Cree Lighting	OSQ-ML-B-XX-XX + OSQM-B-11L-57K7-3M-UL-NM-XX
	3	A3-2	D180	11175	1.030	B2-U0-G2	72	432	Cree Lighting	OSQ-ML-B-XX-XX + OSQM-B-11L-57K7-3M-UL-NM-XX
	5	A4	SINGLE	11174	1.030	B2-U0-G2	72	360	Cree Inc	OSQ-ML-B-XX-XX + OSQM-B-11L-57K7-4M-UL-NM-XX
	20	C1	SINGLE	12516	1.030	B3-U0-G1	91.19	1823.8	Cree Lighting	CPY250-B-DM-F-13L-UL-XX-57K
	18	W1	SINGLE	4270	1.030	B1-U0-G1	31	558	Cree Inc	XSPW-B-WM-3ME-4L-57K-UL-XX

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SCALE:  
1" = 30'  
LAYOUT BY:  
LMP  
DWG SIZE:  
D  
DATE:  
04/30/21

PROJECT NAME:  
**MOBIL/BURGER KING  
LEICESTER, MA**  
DRAWING NUMBER:  
**RL-7353-S1-R1**



**RED LEONARD  
ASSOCIATES**  
1340 Kemper Meadow Dr, Forest Park, OH 45240  
513-674-9600 | redleonard.com

REV.	BY	DATE	DESCRIPTION
R1	LMP	08/19/21	REVISED TO INCLUDE SELF STORAGE PARKING

LIGHTING  
PHOTOMETRIC PLAN

JOB NO:  
00047  
SHEET:  
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