PERMIT ISSUED
APR 2002
CITY OF PORTLAND

City of Portland, Maine - Building or Use Permit Application

389 Congress Street, 04101 Tel: (207) 874-8703, Fax: (207) 874-8716

Permit No:	Issue Date:	CBL:
02-0303		333 K016001

Location of Construction:	Owner Name:	Owner Address:	Phone:
159 Beverly St	Cpw Development Corporation	1 Percy Hawkes Rd	
Business Name:	**Contractor Name:**	**Contractor Address:**	**Phone**
	John Ross Heating	41 Middle Rd. Cumberland	2078294248
Lessee/Buyer's Name	**Phone:**	**Permit Type:**	**Zone:**
		HVAC	

Past Use:	Proposed Use:	Permit Fee:	Cost of Work:	CEO District:
Single Family	Single Family	$30.00	$30.00	1

FIRE DEPT: ☐ Approved ☐ Denied — Signature: N/A

INSPECTION: Use Group: R3 Type: Heating — Signature:

Proposed Project Description:
Install Heating System w/ 1 275 Gallon Oil Tank

PEDESTRIAN ACTIVITIES DISTRICT (P.A.D.)

Action: ☐ Approved ☐ Approved w/Conditions ☐ Denied

Signature: Date:

Permit Taken By:	Date Applied For:
mjn	04/04/2002

1. This permit application does not preclude the Applicant(s) from meeting applicable State and Federal Rules.
2. Building permits do not include plumbing, septic or electrical work.
3. Building permits are void if work is not started within six (6) months of the date of issuance. False information may invalidate a building permit and stop all work..

Zoning Approval

Special Zone or Reviews	Zoning Appeal	Historic Preservation
☐ Shoreland	☐ Variance	☐ Not in District or Landmark
☐ Wetland	☐ Miscellaneous	☐ Does Not Require Review
☐ Flood Zone	☐ Conditional Use	☐ Requires Review
☐ Subdivision	☐ Interpretation	☐ Approved
☐ Site Plan	☐ Approved	☐ Approved w/Conditions
Maj ☐ Minor ☐ MM ☐	☐ Denied	☐ Denied
Date:	Date:	Date:

N/A

CERTIFICATION

I hereby certify that I am the owner of record of the named property, or that the proposed work is authorized by the owner of record and that I have been authorized by the owner to make this application as his authorized agent and I agree to conform to all applicable laws of this jurisdiction. In addition, if a permit for work described in the application is issued, I certify that the code official's authorized representative shall have the authority to enter all areas covered by such permit at any reasonable hour to enforce the provision of the code(s) applicable to such permit.

SIGNATURE OF APPLICANT | ADDRESS | DATE | PHONE

RESPONSIBLE PERSON IN CHARGE OF WORK, TITLE | DATE | PHONE

333 E016 02-0303

FILL IN AND SIGN WITH INK

PERMIT ISSUED
APR 9 2002
CITY OF PORTLAND

APPLICATION FOR PERMIT
HEATING OR POWER EQUIPMENT

Amount of Job = #1500.00

To the INSPECTOR OF BUILDINGS, PORTLAND, ME.

The undersigned hereby applies for a permit to install the following heating, cooking or power equipment in accordance with the Laws of Maine, the Building Code of the City of Portland, and the following specifications:

Location 159 Beverly Street Use of Building _____ Date 4-4-02

Name and address of owner of appliance C.P.W. Development

Installer's name and address John Ross Heating

41 Middle Road, Cumberland Me. 04021 Telephone 829-3066

Location of appliance:

- ☒ Basement
- ☐ Floor
- ☐ Attic
- ☐ Roof

Type of Fuel:

- ☐ Gas
- ☒ Oil
- ☐ Solid

Appliance Name: _____

U.L. Approved ☒ Yes ☐ No

Will appliance be installed in accordance with the manufacture's installation instructions? ☒ Yes ☐ No

IF NO Explain: _____

The Type of License of Installer:

- ☐ Master Plumber # _____
- ☒ Solid Fuel # 4585
- ☐ Oil # _____
- ☐ Gas # _____
- ☐ Other _____

Type of Chimney:

- ☐ Masonry Lined
  Factory built _____
- ☐ Metal
  Factory Built U.L. Listing # _____
- ☒ Direct Vent
  Type Power Venter UL# _____

Type of Fuel Tank

- ☒ Oil
- ☐ Gas

Size of Tank 275 gallon

Number of Tanks 1

Distance from Tank to Center of Flame 10 **feet.**

#30.00

Approved

Fire: _____

Ele.: _____

Bldg.: _____

Approved with Conditions

- ☐ See attached letter or requirement

Signature of Installer John Ross

White - Inspection Yellow - File Pink - Applicant's Gold - Assessor's Copy

CITY OF PORTLAND, MAINE

Department of Building Inspections

4/11 20 02

Received from CPW Development

Location of Work 159 Beverly St

Cost of Construction $ —

Permit Fee $ —

Building (IL) ___ Plumbing (I5) ___ Electrical (I2) ___ Site Plan (U2) ___

Other COFU

CBL: 333-K016

Check #: 2017 **Total Collected** $ 50-

THIS IS NOT A PERMIT

No work is to be started until PERMIT CARD is actually posted upon the premises. Acceptance of fee is no guarantee that permit will be granted. PRESERVE THIS RECEIPT. In case permit cannot be granted the amount of the fee will be refunded upon return of the receipt less $10.00 or 10% whichever is greater.

WHITE - Applicant's Copy
YELLOW - Office Copy
PINK - Permit Copy

SUBJECT TO DEPARTMENTAL CONDITIONS

DATE OF APPROV 3-28-01 REVISED 1/9

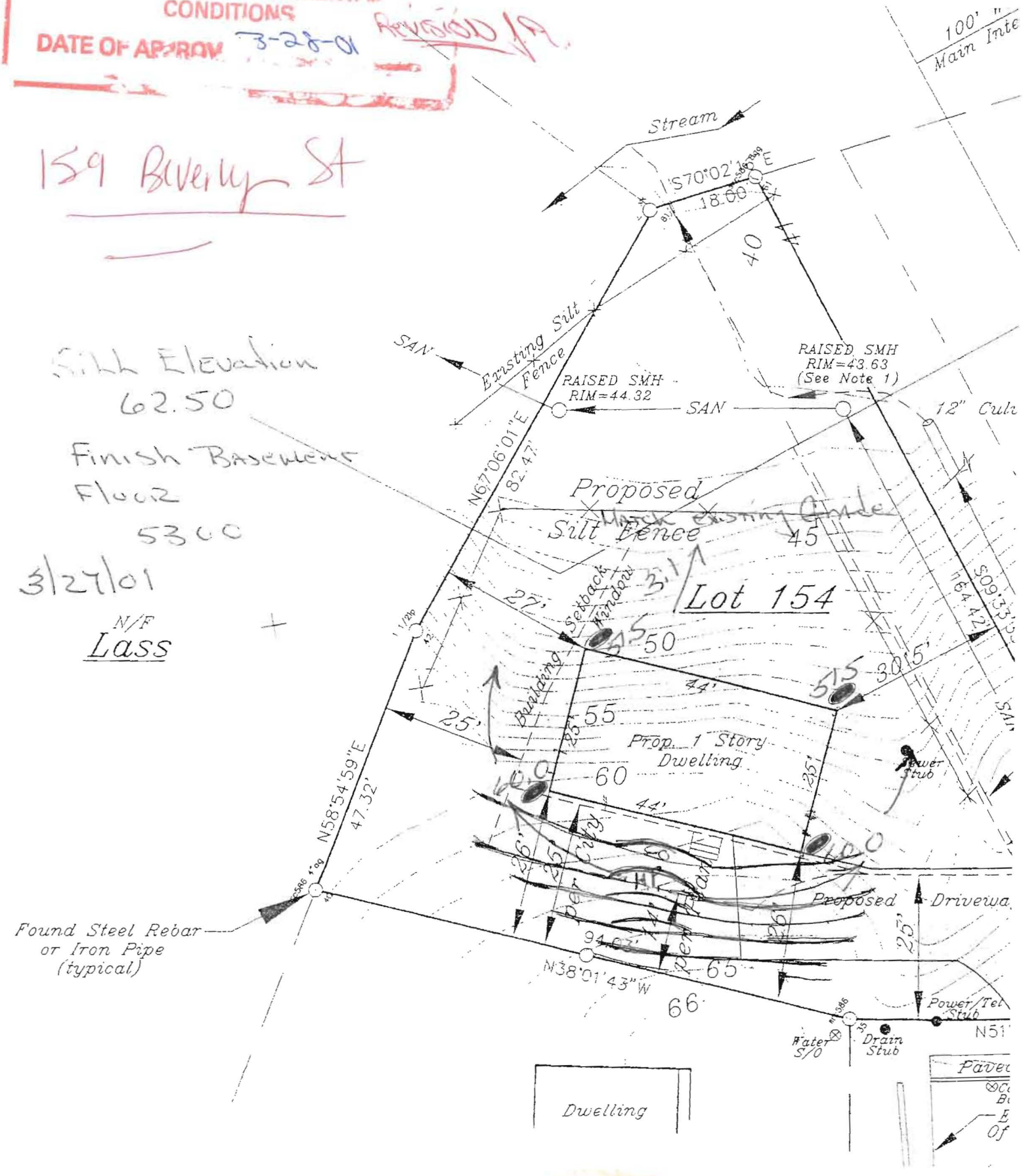
159 Beverly St

Silt Elevation
62.50

Finish Basement
Floor
53.00

3/27/01

N/F
Lass



MARK VERRILL
CELL
415-440-2
OFFICE
839-7603

VCM
Construction

• *Geotechnical Engineering* • *Field & Laboratory Testing* • *Scientific & Environmental Consulting*

GEOTECHNICAL ENGINEERING SERVICES
PROPOSED RESIDENCE
154 BEVERLY STREET
PORTLAND, MAINE

00-0573 S September 25, 2000

S.W.COLE ENGINEERING, INC.
• Geotechnical Engineering • Field & Lab Testing • Scientific & Environmental Consulting

00-0573

September 25, 2000

CBW Development
Attn: Tom Blackburn
PO Box 4000
Windham ME 04062

Subject: Geotechnical Engineering Services
Proposed Residence
154 Beverly Street
Portland, Maine

Dear Mr. Blackburn:

In accordance with our Service Contract dated August 25, 2000 and subsequent discussions, we have made an investigation at the site of the proposed residence on Lot 154 Beverly Street in Portland, Maine. The purpose of our investigation was to obtain subsurface information at the site of the proposed residence in order to evaluate global stability and to provide geotechnical parameters for your use in design of footings and basement walls. The investigation included the making of subsurface explorations, in-situ soil testing and a geotechnical evaluation of the findings. The contents of this report are subject to the limitations set forth in Attachment A.

PROPOSED CONSTRUCTION

Based on information provided by Nadeau & Lodge (project surveyor), Shelley Engineering (project structural engineer) and CBW Development (general contractor), we understand the proposed residence will be a two-story wood-framed structure with a daylight basement and attached garage. The proposed structure will occupy a plan area of about 24 feet by 56 feet constructed on an existing 2½H:1V slope. Based on our discussions with you, we understand the attached garage will have a structural parking deck slab with a full basement below.

Foundations will consist of spread footings with one row of interior columns, spaced about 8 feet on-center, along the long axis of the building. According to information provided by Shelley Engineering, column loads are anticipated to be 14 kips (dead plus live load) and perimeter wall loads are anticipated to be 2.8 kip per lineal foot of wall.

Based on our discussions with you, the basement floor will be at elevation 53 feet, which will require cuts on the order of 4 feet to 11 feet to establish footing grade and about 8½ feet to establish bottom of slab grade. Considering a design frost depth of 4 feet for the Portland area, we anticipate footings will be founded at about elevation 49 feet on the northerly side (downhill) of the proposed structure stepping up to about elevation 51 feet on the southerly side (uphill). Details of the proposed and existing site features are shown on the "Exploration Location Plan" attached as Sheet 1.

SUBSURFACE CONDITIONS

Two test pits (TP-1 and TP-2) and one test boring (B-1) were made in the area of the proposed building at the approximate locations shown on Sheet 1. Beneath the topsoil and forest duff, the explorations generally encountered about 3 to 4½ feet of clayey fill soils overlying relatively stiff native brown silty clay underlain by a softer stratum of gray silty clay with shells. Test pits TP-1 and TP-2 were terminated in the relatively stiff stratum of brown silty clay at depths of 6 and 9½ feet, respectively. Test boring B-1 penetrated the upper stratum of brown silty clay at a depth of about 14 feet and was terminated at a depth of about 42 feet in the lower stratum of relatively soft gray silty clay. Free groundwater was not encountered during the short time period the explorations were open; however, the soils were observed to be wet below a depth of about 15 feet.

For a more detailed description of the subsurface conditions encountered see the logs attached as Sheets 2 through 4. A key to the notes and symbols used on the logs is attached as Sheet 5. Results of in-situ strength testing performed in test boring B-1 are shown on the log.

DISCUSSION AND RECOMMENDATIONS

We have made an analysis of global stability for the proposed structure. Our analysis has been based on our understanding of the proposed construction and subsurface information obtained at the explorations. Additionally, we assumed that the interior columns would be supported on a reinforced concrete grade beam at least 2 feet wide. Based on these considerations, we estimate the factor of safety for the overall stability

(deep rotational slope failure) of the site with proposed residence is on the order of 1.5. If seismic loads are considered, the factor of safety drops to about 1.2. Consequently, the site appears suitable for the proposed construction from a slope stability standpoint.

Wall and column footings should bear on at least 6 inches of compacted select fill placed upon undisturbed stiff brown silty clay. If subgrades are wet, the compacted select fill under footings should be replaced with a 6-inch layer of ¾-inch crushed stone wrapped in geotextile filter fabric. All wall footings should be at least 4 feet from freezing temperatures. Wall and column footings should be at least 2 feet in width and the interior columns should, ideally, be supported on a reinforced concrete grade beam running the entire length of the building. Footing and basement wall design should consider the following soil parameters:

- Allowable Bearing Pressure = 1.5 ksf (properly prepared subgrade, as noted)
- Design Frost Depth = 4.0 feet
- Base Friction Factor = 0.4 (compacted select fill)
- (K_p) Passive Lateral Earth Pressure Coefficient = 3.0 (compacted select fill)
- (K_o) At-Rest Lateral Earth Pressure Coefficient = 0.5 (compacted select fill)
- (γ_T) Unit Weight of Backfill = 130 pcf (compacted select fill)

Wall design should also consider surcharge loads from vehicles within the driveway. We recommend that the wall be backfilled with compacted select fill. The select fill should be compacted to between 92 to 95 percent of ASTM D-1557. The select fill should be clean, well-drained granular fill meeting the following gradation:

SELECT FILL GRADATION	
Sieve Size	**Percent Finer by Weight**
4 inch	100
3 inch	90 – 100
¼ inch	25 – 90
#40	0 – 30
#200	0 – 5

An underdrain should be installed at footing grade around the perimeter wall footing. The underdrain should be perforated (perforations oriented downward) and have a positive gravity outlet. The underdrain should be surrounded with at least 12 inches of ¾ inch crushed stone and the stone should be wrapped with geotextile fabric. Further, all below grade concrete walls should be damp-proofed and a layer of insulation should be installed adjacent to the exterior side of all basement walls. This will help reduce thermal conductivity and the potential for condensation.

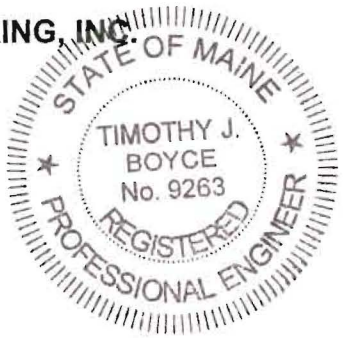
CLOSURE

We request that S.W.COLE ENGINEERING be retained to review the final design and specifications to determine that our foundation recommendations have been properly interpreted and implemented. During construction, an S.W.COLE ENGINEERING representative should be on-site to observe subgrade soils prior to fill or concrete placement. A soils and concrete testing program should be implemented to observe compliance with the design concepts, specifications, and recommendations and to allow design changes in the event that subsurface conditions are found to differ from those anticipated prior to the start of construction. S.W.COLE ENGINEERING is available to provide soil and concrete testing services.

We trust this letter meets your needs. Please do not hesitate to contact us if you have any questions.

Sincerely,

S. W. COLE ENGINEERING, INC.



Timothy J. Boyce, P. E.
Geotechnical Engineer

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ATTACHMENT A
LIMITATIONS

This report has been prepared for the exclusive use of CBW Development for specific application to the proposed Residence on Lot 154 Beverly Street in Portland, Maine. S.W.COLE ENGINEERING, INC. has endeavored to conduct the work in accordance with generally accepted soil and foundation engineering practices. No other warranty, expressed or implied, is made.

The soil profiles described in the report are intended to convey general trends in subsurface conditions. The boundaries between strata are approximate and are based upon interpretation of exploration data and samples.

The analyses performed during this investigation and recommendations presented in this report are based in part upon the data obtained from subsurface explorations made at the site. Variations in subsurface conditions may occur between explorations and may not become evident until construction. If variations in subsurface conditions become evident after submission of this report, it will be necessary to evaluate their nature and to review the recommendations of this report.

Observations have been made during exploration work to assess site groundwater levels. Fluctuations in water levels will occur due to variations in rainfall, temperature, and other factors.

Recommendations contained in this report are based substantially upon information provided by others regarding the proposed project. In the event that any changes are made in the design, nature, or location of the proposed project, S.W.COLE ENGINEERING, INC. should review such changes as they relate to analyses associated with this report. Recommendations contained in this report shall not be considered valid unless S.W.COLE ENGINEERING, INC reviews the changes.

S.W.COLE
ENGINEERING, INC.
GEOTECHNICAL CONSULTANTS

BORING LOG

BORING NO.: B-1
SHEET: 1 OF 2
PROJECT NO.: 00-0573
DATE START: 7/14/00
DATE FINISH: 7/14/00
ELEVATION: 62+/- '
SWC REP.: RED

PROJECT / CLIENT: 154 BEVERLY STREET / CBW DEVELOPMENT
LOCATION: PORTLAND, MAINE
DRILLING FIRM: NORTHERN TEST BORINGS DRILLER: MIKE NADEAU

	TYPE	SIZE I.D.	HAMMER WT.	HAMMER FALL
CASING:	HSA	4 1/4"		
SAMPLER:	SS	1 3/8"	140 lb	30"
CORE BARREL:				

WATER LEVEL INFORMATION
Soils wet @ 15'

CASING BLOWS PER FOOT	SAMPLE NO.	PEN.	REC.	DEPTH @ BOT	SAMPLER BLOWS PER 6" 0-6	6-12	12-18	18-24	DEPTH	STRATA & TEST DATA	
									0.5'	TOPSOIL & ROOT MATERIAL	
									4±'	BROWN SILTY CLAY (FILL)	
	1D	24"	18"	7.0'	6	6	8	10		BROWN SILTY CLAY ~VERY STIFF TO ...	q_p = 5 ksf
											q_p = 4 ksf
											q_p = 2 ksf
	2D	24"	22"	12.0'	3	4	5	7		...MEDIUM~	L_V = 0.75 ksf
									14±'		
											L_V = 0.2 ksf
	3D	24"	24"	17.0'	3	2	2	4		GRAY SILTY CLAY WITH SHELLS	
	3.5"x7" VANE			20.8'						S_V = 0.54/0.09 ksf	
	3.5"x7" VANE			21.6'						S_V = 0.54/0.08 ksf	
										~ MEDIUM ~	
	4D	24"	24"	25.0'	WOM	WOM	WOM	WOM			L_V = 0.2 ksf
	5D	24"	24"	27.0'	WOM	WOM	WOM	WOM			
	3.5"x7" VANE			27.8'						S_V = 0.50/0.11 ksf	
	3.5"x7" VANE			28.6'						S_V = 0.54/0.11 ksf	
									31±'		L_V = 0.2 ksf
	6D	24"	24"	32.0'							
	7D	24"	24"	34.0'	3	1	2	3		GRAY SILTY CLAY WITH FINE SAND SEAMS AND SHELLS	
	8D	24"	24"	37.0'	WOM	WOM	WOM	WOM		S_V = 0.38/0.01 ksf ~ MEDIUM ~	
	3.5"x7" VANE			37.8'						S_V = 0.54/0.02 ksf	
	3.5"x7" VANE			38.4'							

SAMPLES:
D=SPLIT SPOON
C=3" SHELBY TUBE
U=3.5" SHELBY TUBE

SOIL CLASSIFIED BY:
[ ] DRILLER - VISUALLY
[X] SOIL TECH.-VISUALLY
[ ] LABORATORY TEST

REMARKS:
STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY BETWEEN SOIL TYPES AND THE TRANSITION MAY BE GRADUAL.

BORING NO.: B-1

S.W.COLE
ENGINEERING, INC.
GEOTECHNICAL CONSULTANTS

BORING LOG

BORING NO.: **B-1**
SHEET: 2 OF 2
PROJECT NO.: 00-0573
DATE START: 7/14/00
DATE FINISH: 7/14/00
ELEVATION: 62+/- '
SWC REP.: RED

PROJECT / CLIENT: 154 BEVERLY STREET / CBW DEVELOPMENT
LOCATION: PORTLAND, MAINE
DRILLING FIRM: NORTHERN TEST BORINGS DRILLER: MIKE NADEAU

	TYPE	SIZE I.D.	HAMMER WT.	HAMMER FALL
CASING:	HSA	4 1/4"		
SAMPLER:	SS	1 3/8"	140 lb	30"
CORE BARREL:				

WATER LEVEL INFORMATION
Soils wet @ 15'

CASING BLOWS PER FOOT	SAMPLE NO.	PEN.	REC.	DEPTH @ BOT	SAMPLER BLOWS PER 6" 0-6	6-12	12-18	18-24	DEPTH	STRATA & TEST DATA
										GRAY SILTY CLAY WITH FINE SAND SEAMS
	9D	24"	24"	42.0'	WOH	WOH	WOH	WOH	42'	AND SHELLS
										BOTTOM OF EXPLORATION @ 42'

SAMPLES:
D=SPLIT SPOON
C=3" SHELBY TUBE
U=3.5" SHELBY TUBE

SOIL CLASSIFIED BY:
[ ] DRILLER - VISUALLY
[X] SOIL TECH.-VISUALLY
[ ] LABORATORY TEST

REMARKS:
STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY BETWEEN SOIL TYPES AND THE TRANSITION MAY BE GRADUAL.

BORING NO.: **B-1**

S.W.COLE
ENGINEERING, INC.
GEOTECHNICAL CONSULTANTS

PROJECT/CLIENT: 154 BEVERLY STREET / CBW DEVELOPMENT
LOCATION: PORTLAND, MAINE
PROJECT NO. 00-0573

TEST PIT 1

DATE: 7/6/00 SURFACE ELEVATION: 53' +/- LOCATION: SEE SHEET 1

SAMPLE NO.	SAMPLE DEPTH	DEPTH (FT)	STRATUM DESCRIPTION	TEST RESULTS
		1.0'	FOREST DUFF & TOPSOIL	
		3.0'	BROWN SILTY CLAY (FILL)	
S-1	5'	6.0'	BROWN SILTY CLAY	
			BOTTOM OF EXPLORATION @ 6.0'	

COMPLETION DEPTH: 6.0' DEPTH TO WATER:

TEST PIT 2

DATE: 7/6/00 SURFACE ELEVATION: 62' +/- LOCATION: SEE SHEET 1

SAMPLE NO.	SAMPLE DEPTH	DEPTH (FT)	STRATUM DESCRIPTION	TEST RESULTS
		0.5'	TOPSOIL & ROOT MATERIAL	
		4.5'	BROWN SILTY CLAY (FILL)	
		9.5'	BROWN SILTY CLAY	
			BOTTOM OF EXPLORATION @ 9.5'	

COMPLETION DEPTH: 9.5' DEPTH TO WATER: No Free Water Observed

KEY TO THE NOTES & SYMBOLS
Test Boring and Test Pit Explorations

All stratification lines represent the approximate boundary between soil types and the transition may be gradual.

Key to Symbols Used:

w	-	water content, percent (dry weight basis)
q_u	-	unconfined compressive strength, kips/sq. ft. - based on laboratory unconfined compressive test
S_v	-	field vane shear strength, kips/sq. ft.
L_v	-	lab vane shear strength, kips/sq. ft.
q_p	-	unconfined compressive strength, kips/sq. ft. based on pocket penetrometer test
O	-	organic content, percent (dry weight basis)
W_L	-	liquid limit - Atterberg test
W_P	-	plastic limit - Atterberg test
WOH	-	advance by weight of hammer
WOM	-	advance by weight of man
WOR	-	advance by weight of rods
HYD	-	advance by force of hydraulic piston on drill
RQD	-	Rock Quality Designator - an index of the quality of a rock mass. RQD is computed from recovered core samples.
γ_T	-	total soil weight
γ_B	-	buoyant soil weight

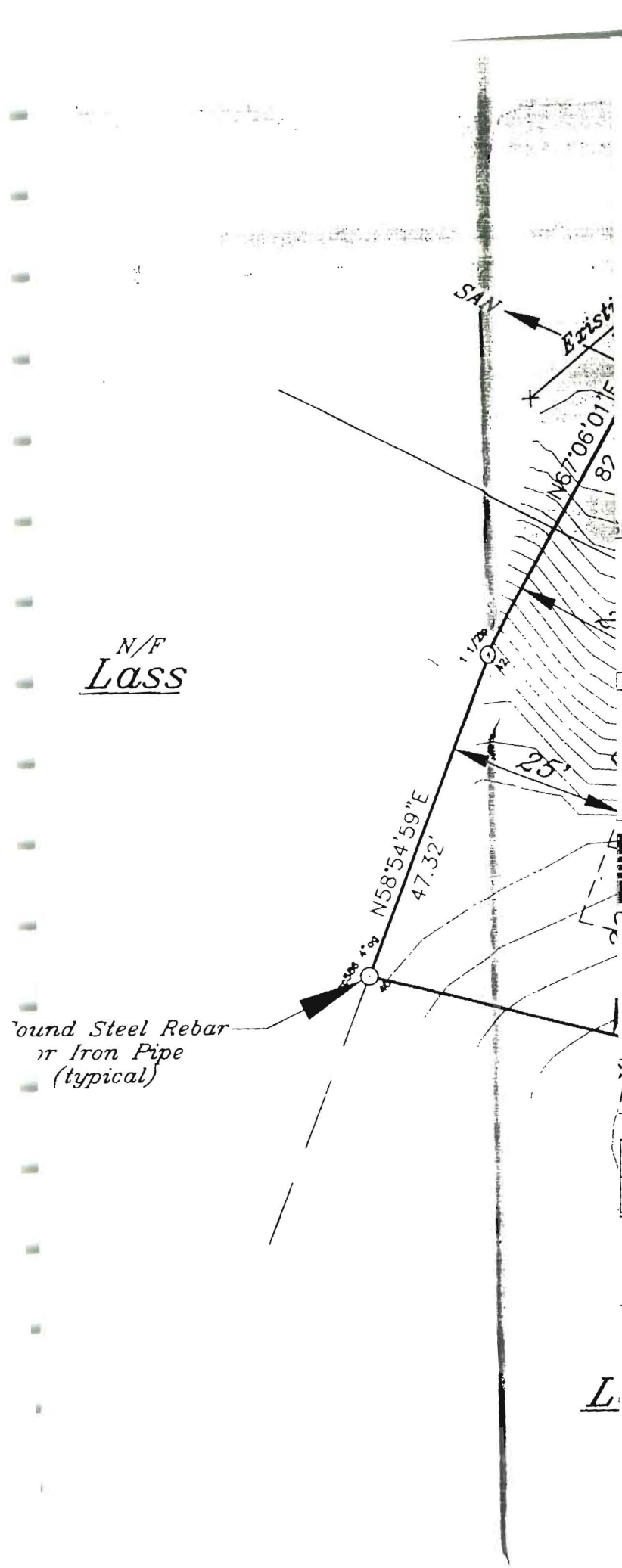
Description of Proportions:

0 to 5% TRACE
5 to 12% SOME
12 to 35% "Y"
35+% AND

REFUSAL: **Test Boring Explorations** - Refusal depth indicates that depth at which, in the drill foreman's opinion, sufficient resistance to the advance of the casing, auger, probe rod or sampler was encountered to render further advance impossible or impracticable by the procedures and equipment being used.

REFUSAL: **Test Pit Explorations** - Refusal depth indicates that depth at which sufficient resistance to the advance of the backhoe bucket was encountered to render further advance impossible or impracticable by the procedures and equipment being used.

Although refusal may indicate the encountering of the bedrock surface, it may indicate the striking of large cobbles, boulders, very dense or cemented soil, or other buried natural or man-made objects or it may indicate the encountering of a harder zone after penetrating a considerable depth through a weathered or disintegrated zone of the bedrock.



Approximate Test Pit Location

Approximate Test Boring Location

Base plan by Nadeau & Lodge , Inc. (dated 6-2-00)
Exploration locations determined in the field by taped measurements from existing site features.

S.W.COLE
ENGINEERING, INC.

CBW DEVELOPMENT

EXPLORATION LOCATION PLAN

PROPOSED RESIDENCE
LOT 154 BEVERLY STREET
PORTLAND, MAINE

CT NO: 00-0573	SCALE: 1" = 20'
/22/00	SHEET: 1

CITY OF PORTLAND, MAINE

Department of Building Inspection

Certificate of Occupancy

LOCATION 159 Beverly St **CBL** 333 K01600101

Issued to CPW Development/CPW Developemnt **Date of Issue** 03/28/2002

This is to certify that the building, premises, or part thereof, at the above location, built — altered — changed as to use under Building Permit No. 01-0109, has had final inspection, has been found to conform substantially to requirements of Zoning Ordinance and Building Code of the City, and is hereby approved for occupancy or use, limited or otherwise, as indicated below.

PORTION OF BUILDING OR PREMISES	APPROVED OCCUPANCY
Entire	Single Family Use Group R-3 Type 5B BOCA 1999

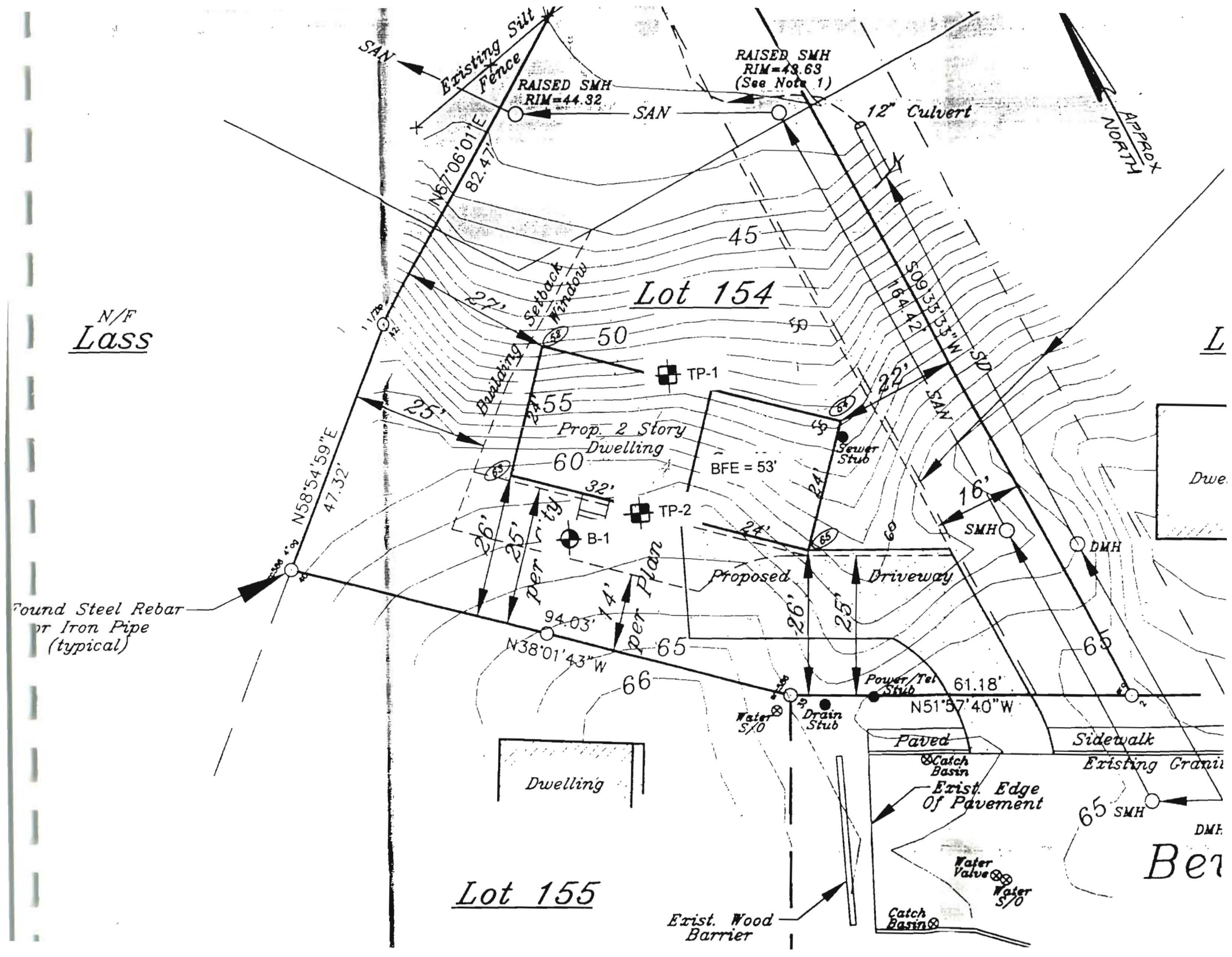
Limiting Conditions:
Temporary until June 15, 2002 due to DRC requirements. Elevation Certificate required.

This certificate supersedes certificate issued

Approved:

3/28/02 (Date) *Inspector* *Inspector of Buildings* 4/11/02

Notice: This certificate identifies lawful use of building or premises, and ought to be transferred from owner to owner when property changes hands. Copy will be furnished to owner or lessee for one dollar.


Existing Silt Fence
SAN
RAISED SMH
RIM=44.32
RAISED SMH
RIM=43.63
(See Note 1)
SAN
12" Culvert
APPROX NORTH
N67°06'01"E
82.47'
45
Lot 154
Setback Window
Building
22'
50
TP-1
25'
2455
Prop. 2 Story
Dwelling
60
BFE = 53'
Sewer Stub
22'
SAN
SD
S09°33'33"W
164.42'
N/F
Lass
N58°54'59"E
47.32'
32'
TP-2
B-1
26'
25'
per Plan
24'
16'
SMH
DMH
Proposed
Driveway
94.03'
N38°01'43"W
14'
per Plan
65
66
Found Steel Rebar or Iron Pipe (typical)
Power/Tel Stub
61.18'
N51°57'40"W
Water S/O
Drain Stub
Paved
Sidewalk
Catch Basin
Exist. Edge Of Pavement
Dwelling
Lot 155
Exist. Wood Barrier
Water Valve
Water S/O
Catch Basin